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Natural  
Resources  
Conservation  
Service

In cooperation  
with the  
Oklahoma  
Agricultural  
Experiment  
Station  
and  
the Oklahoma  
Conservation  
Commission

# Soil Survey of Greer County, Oklahoma







# How To Use This Soil Survey

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This survey includes general information about the survey area, descriptions of the detailed soil map units and soil series in the area, and a description of how the soils formed. Also described is the use and management of the soils and the major soil properties. This data may be updated as further information about soil management becomes available.

The detailed soil map unit descriptions, when used in conjunction with the detailed soil maps, can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the Index to Map Sheets, which precedes the soil maps. Note the number of the map sheet, and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the Index to Map Units in this survey, which lists the map units by symbol and name and shows the page where each map unit is described. The "Summary of Tables" shows which table has data on a specific land use for each detailed soil map unit. See "Contents" for sections of this publication that may address your specific needs.



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This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2004. Soil names and descriptions were approved in September 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2004. This survey was made cooperatively by the Natural Resources Conservation Service, the Oklahoma Agricultural Experiment Station, and the Oklahoma Conservation Commission. It is part of the technical assistance furnished to the Greer County Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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**Cover: Irrigated cotton on Tipton loam, 0 to 1 percent slopes.**

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# Foreword

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This soil survey contains information that can be used in land-planning programs in Oklahoma. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information is available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Ronald L. Hilliard  
State Conservationist  
Natural Resources Conservation Service



# Soil Survey of Greer County, Oklahoma

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Fieldwork by Richard F. Gelnar, Clay D. Salisbury, and Randall Miller  
Natural Resources Conservation Service

United States Department of Agriculture  
Natural Resources Conservation Service  
in cooperation with  
the Oklahoma Agricultural Experiment Station and  
the Oklahoma Conservation Commission

This soil survey updates the survey of Greer County published in 1967 (7). It provides additional information and shows the soils in greater detail.

Greer County is in the southwestern part of Oklahoma (fig. 1). Adjacent counties are Harmon County on the west, Beckham County on the north, Kiowa County on the east, and Jackson County on the south. It has an area of 643 square miles, or 411,642 acres. Mangum, the county seat, is located in the south-central part of the county.

## General Nature of the Survey Area

This section provides general information about the survey area. It describes history; industry and transportation; physiography and drainage; natural resources; and climate.

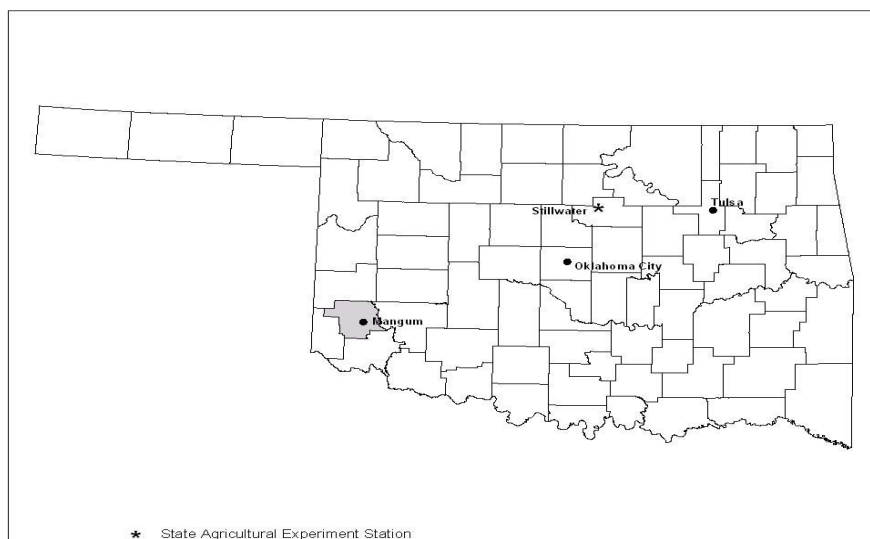


Figure 1.—Location of Greer County in Oklahoma.

## History

Burna Cole, Museum of the Western Prairie, Altus, Oklahoma helped prepare this section.

From the time of Coronado's exploration of the plains of Texas, the Oklahoma Panhandle, and western Kansas in 1542, the area of present day Greer County has been fought over and in dispute between nations. The region was claimed by Spain as part of the "right of exploration" based on Coronado's expedition. France laid claim to the region also, as a "right of exploration," when in 1673, Father Marquette and Louis Jolliet followed the course of the Mississippi as far south as the Arkansas River and claimed the river and all its drainage for France. Following the French and Indian War, France ceded its territory west of the Mississippi River to Spain. Napoleon, however, negotiated for the return of the territory but then in 1803 sold the region as the Louisiana Purchase to the United States.

Always in dispute, first between the French and the Spanish, the boundaries became even more hotly contested when the more aggressive Americans became Spain's neighbors. France had told the United States it would receive the boundaries just as France had received them from Spain. It was bounded on the east by the Mississippi River, on the south by the Gulf of Mexico, on the west by the Sabine River, the Red River, the Arkansas River and the Continental Divide. But the Red River was a problematic boundary. In spite of the fact that Pedro Vial had mapped the Red River to its headwaters in the Palo Duro Canyon in 1785, several expeditions by the United States to locate the headwaters failed. The United States finally secured an accurate mapping of the river in 1852 by Captain Randolph Marcy and Captain George McCellan; however, they did mis-locate the 100th meridian at that time. The most southern and westerly flowing branch, known as the Prairie Dog branch was deemed by the United States as the boundary with Mexico. Mexico and later the Republic of Texas regarded the North Fork of the Red River to be the principal river bed and therefore the boundary. Texas proceeded to organize a county and named it Greer after John Greer, Lt. Governor of Texas.

Following the Civil War, John Lytle opened the Great Western Cattle Trail through the region. The trail was in use from 1874 until about 1888. An average of 300,000 head of cattle moved over the trail annually, along with approximately 7,000 horses and 1,000 men.

When President Harrison signed the Organic Act authorizing the organization of Oklahoma Territory in 1890, He also directed that suit be brought against Texas in the United States Supreme Court to settle once and for all the question of boundary and jurisdiction. In 1896, the Supreme Court found in favor of the United States and against Texas. A region containing 1.4 million acres of land was added to the Oklahoma Territory. At statehood in 1907, Old Greer County was divided into present day Greer, Harmon, Jackson, and the southern half of Beckham counties.

Settlement of Old Greer County was primarily emigration by Texans into the region. Cattle ranches such as the Cross-S, owned by the Eddleman brothers, Ikard-Harold Cattle, and Franklin Cattle all ran their livestock on the open plains, meanwhile nesters (squatters, sod-busters, and farmers) drifted into the area looking for a better future. Texas also had offered land to veterans of the Texas War of Independence from Mexico in 1836. One recipient of such a grant was Captain A. S. Mangum for whom the town of Mangum is named. Once the land became a part of the Oklahoma Territory, the United States Government allowed those in residence to file on 160 acre homesteads and the option to purchase an additional 160 acres.

## Industry and Transportation

Greer County has adequate transportation facilities. U.S. Highway 283 and State Highway 34 extend north to south through the center of the county. State Highway 9



extends generally east to west through the center of the county. State Highway 6 extends along the eastern side of the county from north to south. Several county roads have been surfaced and are suitable for all-weather travel. An airport facility is located at Mangum.

Agriculture provides a major part of the income in Greer County. Cotton, peanuts, alfalfa, livestock, and related products are the principal sources.

The oil and gas industry also provide a source of income in the county. A granite quarry and state correctional facility are located in the town of Granite.

## **Physiography and Drainage**

Greer County contains parts of three Major Land Resource Areas within its boundaries. The western part of the county is in the Central Rolling Red Plains—western part (78B). The remainder of the county is located in the Central Rolling Red Plains—eastern part (78C) with the exception of a small portion of the east-central part which is in the Wichita Mountains (82B).

Elevation ranges from 1,410 to 2,303 feet. The highest point in the county is located at the top of Walsh Mountain northwest of the town of Granite. The lowest point in the county is located at the southern boundary where the Salt Fork of the Red River leaves the county.

The relief in Greer County can be divided into four basic topographic types. The eastern and central parts of the county are characterized by nearly level and gently sloping alluvial terraces of fine and moderately fine textured soils. These soils are very productive and most are cultivated.

The western part of the county is characterized by nearly level to moderately sloping hills formed from the interbedded gypsum, dolomite, claystone, and sandstone of Permian age. This area contains karst topography that formed in gypsum and dolomite bedrock with numerous sinkholes. Most of the soils in this area were formed from the Permian bedrock or local alluvium and range from very shallow to very deep to bedrock. They are moderately productive but are susceptible to erosion when cultivated. Many acres in this area have been reseeded to native grass or tame pasture species.

The third type of relief is characterized by steep escarpments, rolling hills, and areas of badlands which runs generally from north to south through the central part of the county. This area is a transitional zone from the rolling uplands in the west to the alluvial terraces in the east. The soils in this region are generally clayey and range from shallow to very deep to bedrock. These soils have low to moderate productivity and are susceptible to erosion when cultivated.

The fourth type occurs in the eastern and southwestern parts of the county. These areas are characterized by gently sloping to steep sand dunes and very gently sloping alluvial terraces. The soils in this area are mainly very deep loamy or sandy soils formed in alluvial or windblown sediments and range from low to moderately high productivity.

The entire county is located in the Red River Basin and the general drainage pattern is from west to east in the western part of the county and north to south in the eastern part of the county. There are three major rivers and several smaller streams that comprise the drainage of Greer County. The North Fork of the Red River flows generally from north to south, is the eastern boundary of the county, and flows into the Red River. The Salt Fork of the Red River flows from west to east in the southern part of the county to about Mangum then turns and flows south into the Red River. The Elm Fork of the River flows from west to east through the central part of the county and flows into the North Fork of the Red River just below Lake Altus.

There are several smaller tributaries which flow into the larger rivers. Deer Creek and Haystack Creek drain the northwestern part of the county and flow into the Elm

Fork River. Lake Creek drains the northeastern part of the county and flows into the North Fork of the Red River. Russell Hollow Creek drains the southwestern part of the county and flows south into Jackson County where it joins the Salt Fork of the Red River.

## Natural Resources

The natural resources of the county are mainly soil, water, petroleum products, and scenic beauty.

The soil and available water are the most important natural resources of the county. A large acreage in the county is productive and has a high potential for native grasses and for cotton, peanuts, and alfalfa. Rangeland makes up about forty percent of the county. In the past, overgrazing and erosion damaged much of the rangeland. Proper management can increase the production of native grasses.

Irrigation has become an important factor in the production of agricultural crops in Greer County. Approximately 11,740 acres are irrigated or have the potential for irrigation in Greer County with cotton, alfalfa, and peanuts being the main crops. Water for irrigation in Greer County comes mainly from two sources, Lake Altus and underground wells.

Lake Altus via a system of canals managed by the Lugert-Altus Irrigation District, supplies water to approximately 46,000 acres between the Salt and North Forks of the Red River. Approximately 2,517 acres of this is located in southeastern Greer County. Most of the water from the Lugert-Altus Irrigation District is applied by canals and furrows.

Wells supply water for irrigation from underground aquifers located in sand and gravel deposits along some of the major streams and rivers in the county. Generally, these aquifers supply water with high enough quality for human or livestock consumption. Well water is applied by both furrow and sprinkler systems. The number of center-pivot sprinkler systems has been increasing because they require less labor and increase water efficiency.

Oil and gas wells have been drilled and are operating in the county. Gypsum beds outcrop in the northwest and southwestern parts, and some areas are mined for road gravel.

Greer County is rich in scenic beauty. It has granite mountains in the eastern part of the county, grass-covered sand dunes in the northeastern part of the county coupled with highly dissected canyons and small buttes in the northwestern and southwestern parts.

## Climate

Prepared by the Natural Resources Conservation Service, National Water and Climate Center, Portland, Oregon.

The climate tables were created using data from the climate station at Mangum Research Station, Oklahoma.

Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from First Order station Amarillo, Texas.

The table, "Temperature and Precipitation," provides data on temperature and precipitation for the survey area as recorded at Mangum Research Station in the period 1971 to 2000. The table, "Freeze Dates in Spring and Fall," shows probable dates of the first freeze in fall and the last freeze in spring. The table, "Growing Season," provides data on the length of the growing season.

In winter, the average temperature is 41.1 degrees F and the average daily minimum temperature is 27.6 degrees. The lowest temperature on record, which occurred at Mangum Research Station on December 23, 1989, was -11 degrees. In summer, the average temperature is 81.7 degrees and the average daily maximum

## Soil Survey of Greer County, Oklahoma

temperature is 96.0 degrees. The highest temperature, which occurred at Mangum Research Station on July 3, 1980, was 117 degrees.

Growing degree days are shown in the table, "Temperature and Precipitation." They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 27.91 inches. Of this, about 21.9 inches, or 78 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 6.45 inches at Mangum Research Station on October 20, 1983. Thunderstorms occur on about 49 days each year, and most occur between May and August.

The average seasonal snowfall is 3.2 inches. The greatest snow depth at any one time during the period of record was 8 inches recorded on February 10, 1986. On an average, about 1 day per year has at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 7.0 inches recorded on March 10, 1948.

The average relative humidity in mid-afternoon is about 40 percent. Humidity is higher at night, and the average at dawn is about 73 percent. The sun shines 78 percent of the time in summer and 69 percent in winter. The prevailing wind is from the south or southwest. Average wind speed is highest, between 15 and 16 miles per hour, in March and April.

# Soil Survey of Greer County, Oklahoma

## Temperature and Precipitation

(Recorded in the period 1971-2000 at Mangum Research Station, Oklahoma)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	51.7	25.2	38.5	79	2	11	0.90	0.24	1.66	1	1.3
February----	58.6	30.0	44.3	84	4	50	1.16	0.33	2.23	2	0.9
March-----	68.3	38.0	53.1	93	16	173	1.71	0.79	2.84	3	0.0
April-----	77.4	46.2	61.8	97	26	367	2.25	0.82	3.72	3	0.0
May-----	84.7	56.9	70.8	103	38	643	4.65	1.83	7.02	5	0.0
June-----	93.0	65.4	79.2	108	51	881	4.20	1.94	6.14	5	0.0
July-----	98.3	69.2	83.7	110	58	1,047	2.22	0.47	3.71	3	0.0
August-----	96.6	67.9	82.3	108	56	996	2.73	0.87	4.42	3	0.0
September---	88.5	60.7	74.6	104	38	730	3.14	0.90	5.36	4	0.0
October-----	78.1	49.0	63.5	98	27	427	2.67	0.74	4.37	3	0.0
November----	63.5	36.9	50.2	85	16	116	1.22	0.56	2.04	2	0.0
December----	53.3	27.7	40.5	77	5	18	1.07	0.22	1.80	2	0.9
Yearly:											
Average---	76.0	47.8	61.9	---	---	---	---	---	---	---	---
Extreme---	117	-11	---	112	-2	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,459	27.91	22.28	32.79	36	3.2

\* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

## Soil Survey of Greer County, Oklahoma

### Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Mangum Research Station,  
Oklahoma)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	March 29	April 11	April 13
2 years in 10 later than--	March 21	April 4	April 10
5 years in 10 later than--	March 7	March 23	April 5
First freezing temperature in fall:			
1 year in 10 earlier than--	October 29	October 23	October 12
2 years in 10 earlier than--	November 6	October 29	October 19
5 years in 10 earlier than--	November 22	November 9	November 1

### Growing Season

(Recorded for the period 1971-2000 at Mangum Research Station, Oklahoma)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	226	204	188
8 years in 10	237	213	195
5 years in 10	258	230	208
2 years in 10	279	247	222
1 year in 10	290	256	229

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size, and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

## Soil Survey of Greer County, Oklahoma

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years. They cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.





# Formation of the Soils

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This section describes the factors of soil formation and how they relate to the soils in Greer County.

## Factors of Soil Formation

Soil is produced by the action of soil-forming processes on materials deposited or accumulated by geologic agents. The characteristics of the soil at any given point are determined by the physical and mineralogical composition of the parent material; the climate under which the soil material has accumulated and existed since accumulation; living organisms on and in the soil; topography, or relief; and the length of time that the forces of soil development have acted on the soil material.

### Parent Material

Parent material influences the chemical, physical, mineral composition, and color of the soil; whether the parent material is unconsolidated or consolidated; and the degree of consolidation influence the rate of soil formation.

Soils on the uplands in Greer County formed in material weathered from sandstone, clay, shale, gypsum, and dolomite.

Alluvial sediment is extensive along the streams and rivers in the county. The kind of sediment deposited and the kinds of soil that formed in it depend largely on the source of the sediment and the velocity of the streams.

### Climate

Greer County has a dry, subhumid climate. The climate is fairly uniform throughout the county; differences between soils cannot be attributed to differences in climate based on the present climatic regime. The temperatures and amount of moisture have been sufficient to promote the formation of distinct layers in many of the soils. Soil leaching is slow to moderate. The physical abrasion and redistribution of materials by wind action contributes to soil formation. Cold temperatures occur often enough and long enough for freezing and thawing to alter materials.

### Living Organisms

Plants, burrowing animals, insects, and microorganisms have a direct influence on the formation of soils. Differences among native grasses and woody plants in the county have resulted in differential losses and gains of organic matter and plant nutrients and differences in soil structure and porosity. Soils that formed under prairie vegetation, such as those of the Roark and Tipton series, have a dark grayish brown surface layer and a moderately high content of organic matter. Soils that formed under woody vegetation, such as those of the Devol series, have a brown surface layer and a low content of organic matter.

## **Topography**

Relief influences the formation of the soils mainly by affecting water movement, erosion, soil temperature, and kind of plant cover. In Greer County, the resistance of underlying formations to weathering and geological erosion determines relief. The topography of the western part of Greer County is gently rolling uplands with very gently sloping to moderately sloping hills. The soils formed on summits and shoulders of hills are generally very shallow to moderately deep to bedrock. The soils formed on side and foot slopes are generally deep or very deep to bedrock. The eastern part of Greer County is nearly level to very gently sloping terraces with occasional low hills. The soils are generally very deep to bedrock, except on the summits and shoulders of hills, which are moderately deep or deep to bedrock. A transitional zone between these areas is characterized by steep rock escarpments and areas of badlands.

## **Time**

As a factor in soil formation, time is difficult to measure strictly in years. The length of time needed for development of genetic horizons depends on the intensity and the interactions of the soil-forming factors in promoting the losses, gains, transfers, or transformations of the constituents necessary in the formation of soil horizons. Soils that have no definite genetic horizons are young or immature. Mature or older soils have approached equilibrium with their environment and tend to have well defined horizons.

The soils in Greer County range from young to old. Hollister and Tillman soils are examples of old soils. Grandfield soils are younger, but they have well expressed horizons. Lincoln and Gracemont soils are young soils that formed in recent sediments on flood plains and show little horizon development.

# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. "Classification of the Soils," shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in sol. An example is Entisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Fluvent (Fluv, meaning flood plain, plus ent, from Entisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Ustifluvents (Usti, meaning dryness, plus fluent, the suborder of Entisols that occurs on flood plains).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Ustifluvents.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is sandy, mixed, thermic Typic Ustifluvents.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Descriptions of the soils are available in the "Official Series Descriptions," which are online at <http://soils.usda.gov>. Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, which is typical of the series, is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (3). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (5).

# Soil Survey of Greer County, Oklahoma

## Classification of the Soils

A '\*' in the first column indicates that the component kind is a taxadjunct to the series. A '%' in the first column indicates that the component kind is a miscellaneous area. A '&' in the first column indicates that the component kind is a family. (See text for a description of those characteristics that are outside the range of the series)

Component name	Family or higher taxonomic class
Acme-----	Fine-silty, mixed, superactive, thermic Gypsic Calciustolls
Altus-----	Fine-loamy, mixed, superactive, thermic Pachic Argiustolls
Arnett-----	Fine-loamy, mixed, active, thermic Typic Haplustalfs
Aspermont-----	Fine-silty, mixed, active, thermic Typic Calciustepts
%Badland-----	
Beckman-----	Fine, mixed, active, thermic Fluventic Haplustepts
Brico-----	Clayey-skeletal, mixed, active, thermic Typic Argiustolls
Bukreek-----	Fine-loamy, mixed, superactive, thermic Typic Paleustolls
Burford-----	Fine-silty, mixed, superactive, thermic Typic Haplustepts
Carey-----	Fine-silty, mixed, superactive, thermic Typic Argiustolls
Carwile-----	Fine, mixed, superactive, thermic Typic Argiaquolls
Clairemont-----	Fine-silty, mixed, superactive, calcareous, thermic Typic Ustifluvents
Cottonwood-----	Loamy, mixed, superactive, calcareous, thermic Lithic Ustorthents
%Dam-----	
Deepwood-----	Coarse-silty, mixed, superactive, thermic Typic Haplustepts
Delwin-----	Fine-loamy, mixed, active, thermic Typic Paleustalfs
Devol-----	Coarse-loamy, mixed, superactive, thermic Typic Haplustalfs
Dodson-----	Fine, smectitic, thermic Pachic Argiustolls
Duke-----	Fine, mixed, active, thermic Sodic Haplusterts
Eastall-----	Fine, smectitic, thermic Ustic Epiaquerts
Eda-----	Mixed, thermic Lamellic Ustipsamments
Ezell-----	Sandy, mixed, thermic Aeric Fluvaquents
Farry-----	Fine-loamy, mixed, superactive, thermic Typic Argiustolls
Frankirk-----	Fine, mixed, superactive, thermic Typic Argiustolls
Gotebo-----	Coarse-silty, mixed, active, thermic Typic Haplustepts
Gracemont-----	Coarse-loamy, mixed, superactive, calcareous, thermic Oxyaquic Udifluvents
Gracemore-----	Sandy, mixed, thermic Oxyaquic Udifluvents
Grandfield-----	Fine-loamy, mixed, superactive, thermic Typic Haplustalfs
Grandmore-----	Fine-loamy, mixed, active, thermic Typic Haplustalfs
Hardeman-----	Coarse-loamy, mixed, superactive, thermic Typic Haplustepts
Harmon-----	Loamy-skeletal, carbonatic, thermic, shallow Typic Ustorthents
Hayfork-----	Fine, mixed, active, thermic Pachic Haplustolls
Headrick-----	Fine-loamy, mixed, active, thermic Oxyaquic Haplustalfs
Heatly-----	Loamy, mixed, active, thermic Arenic Paleustalfs
Hollister-----	Fine, smectitic, thermic Typic Haplusterts
Jester-----	Mixed, thermic Typic Ustipsamments
Knoco-----	Clayey, mixed, active, calcareous, thermic, shallow Aridic Ustorthents
La Casa-----	Fine, mixed, superactive, thermic Typic Argiustolls
*Lawton-----	Fine, mixed, superactive, thermic Pachic Argiustolls
Lawton-----	Fine, mixed, superactive, thermic Typic Argiustolls
Lincoln-----	Sandy, mixed, thermic Typic Ustifluvents
Madge-----	Fine-loamy, mixed, superactive, thermic Typic Argiustolls
McKnight-----	Fine-loamy, mixed, active, thermic Typic Haplustalfs
Nipsum-----	Fine, mixed, superactive, thermic Cumulic Haplustolls
Nobscot-----	Loamy, mixed, superactive, thermic Arenic Paleustalfs
Oakley-----	Fine-loamy, mixed, active, thermic Typic Calciustolls
Ozark-----	Fine-loamy, mixed, active, thermic Typic Argiustolls
%Pits-----	
Quannah-----	Fine-silty, mixed, superactive, thermic Typic Calciustolls
Quinlan-----	Loamy, mixed, superactive, thermic, shallow Typic Haplustepts
Retrop-----	Fine-silty, mixed, superactive, calcareous, thermic Oxyaquic Udifluvents
Roark-----	Fine, mixed, superactive, thermic Pachic Argiustolls
%Rock outcrop-----	
Rups-----	Fine-silty, mixed, superactive, thermic Oxyaquic Haplustolls
Shrewder-----	Coarse-loamy, mixed, superactive, thermic Typic Haplustepts
Southside-----	Mixed, thermic Typic Ustipsamments

# Soil Survey of Greer County, Oklahoma

## Classification of the Soils--Continued

Component name	Family or higher taxonomic class
Spikebox-----	Loamy, mixed, active, thermic, shallow Typic Haplustepts
Springer-----	Coarse-loamy, mixed, superactive, thermic Typic Paleustalfs
Spur-----	Fine-loamy, mixed, superactive, thermic Fluventic Haplustolls
Talpa-----	Loamy, mixed, superactive, thermic Lithic Calciustolls
Tillman-----	Fine, mixed, superactive, thermic Vertic Paleustolls
Tilvern-----	Fine, mixed, active, thermic Vertic Haplustepts
Tipton-----	Fine-loamy, mixed, superactive, thermic Pachic Argiustolls
Treadway-----	Fine, mixed, semiactive, thermic Gypsic Haplustepts
&Unnamed-----	Fine-loamy, gypsic, thermic Gypsic Haplustepts
Vernon-----	Fine, mixed, active, thermic Typic Haplustepts
Vinson-----	Fine-silty, mixed, superactive, thermic Entic Haplustolls
%Water-----	
Westill-----	Fine, mixed, active, thermic Vertic Argiustolls
Westola-----	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Ustifluvents
Willow-----	Fine-silty, mixed, superactive, thermic Typic Argiustolls
Woodward-----	Coarse-silty, mixed, superactive, thermic Typic Haplustepts



# Detailed Soil Map Units

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The map units on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given in the “Use and Management” section of this survey.

A map unit delineation on the detailed soil maps represents an area on the landscape and consists of one or more soils or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, are mapped without areas of minor components of other taxonomic classes. Consequently, map units are made up of the soils or miscellaneous areas for which they are named and some areas of included soils that belong to other taxonomic classes.

Most soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting or similar soils. They may or may not be mentioned in the map unit description. Other soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting or dissimilar, minor components. They generally are in small areas and could not be mapped separately because of the scale used. Descriptions of the soils are available in the “Official Series Descriptions,” which are online at <http://soils.usda.gov>. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The areas of minor soils or miscellaneous areas are mentioned in the map unit descriptions. A few areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying layers, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

## Soil Survey of Greer County, Oklahoma

Soils of one series can differ in texture of the surface layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Aspermont silt loam, 3 to 5 percent slopes, is a phase of the Aspermont series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Burford-Spikebox outcrop complex, 3 to 12 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop, granite, is an example. Miscellaneous areas are shown on the soil maps. Areas that are too small to be shown are identified by a special symbol on the soil maps.

The table, "Acreage and Proportionate Extent of the Soils," provides the acreage and proportionate extent of each map unit. Other tables (see "Summary of Tables") show properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.



# Soil Survey of Greer County, Oklahoma

## Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AceB	Acme silt loam, 0 to 2 percent slopes-----	1,140	0.3
ArHF	Arnett-Hardeman complex, 3 to 15 percent slopes-----	669	0.2
ArnB	Arnett sandy loam, 1 to 3 percent slopes-----	309	*
ArnC	Arnett sandy loam, 3 to 5 percent slopes-----	4,113	1.0
AsmB	Aspermont silt loam, 1 to 3 percent slopes-----	3,848	0.9
AsmC	Aspermont silt loam, 3 to 5 percent slopes-----	6,117	1.5
BekA	Beckman silty clay, 0 to 1 percent slopes, occasionally flooded-----	9,177	2.2
BfdB	Burford loam, 1 to 3 percent slopes-----	2,650	0.6
BfdC	Burford loam, 3 to 5 percent slopes-----	1,217	0.3
BfSC2	Burford-Spikebox complex, 3 to 5 percent slopes, eroded-----	3,945	1.0
BfSE	Burford-Spikebox complex, 3 to 12 percent slopes-----	7,551	1.8
BriE	Brico cobbly loam, 3 to 12 percent slopes-----	514	0.1
BukA	Bukreek loam, 0 to 1 percent slopes-----	366	*
CarB	Carey loam, 1 to 3 percent slopes-----	355	*
CawA	Carwile fine sandy loam, 0 to 1 percent slopes, frequently ponded-----	60	*
CVRD	Cottonwood-Vinson-Rock outcrop complex, 1 to 8 percent slopes-----	12,894	3.1
DAM	Large dam-----	99	*
DeSD	Devol and Springer loamy sands, 3 to 8 percent slopes-----	5,374	1.3
DkuA	Duke silty clay, 0 to 1 percent slopes, occasionally flooded-----	2,290	0.6
DodA	Dodson loam, 0 to 1 percent slopes-----	6,010	1.5
DodB	Dodson loam, 1 to 3 percent slopes-----	1,096	0.3
EatA	Eastall silty clay, 0 to 1 percent slopes, frequently ponded-----	200	*
EdsB	Eda sand, 0 to 3 percent slopes-----	1,206	0.3
EdsD	Eda sand, 3 to 8 percent slopes-----	7,076	1.7
EdsF	Eda sand, 8 to 15 percent slopes-----	4,305	1.0
FraB	Frankirk loam, 1 to 3 percent slopes-----	2,254	0.5
FryB	Farry loam, 1 to 3 percent slopes-----	1,019	0.2
GdfB	Grandfield fine sandy loam, 1 to 3 percent slopes-----	1,641	0.4
GLGB	Grandmore and Grandfield loamy sands, 0 to 3 percent slopes-----	24,252	5.9
GlsB	Grandfield loamy sand, 0 to 3 percent slopes-----	6,681	1.6
GlsD	Grandfield loamy sand, 3 to 8 percent slopes-----	2,863	0.7
GmuA	Gracemont fine sandy loam, saline, 0 to 1 percent slopes, occasionally flooded-----	976	0.2
GmwA	Gracemont fine sandy loam, saline, 0 to 1 percent slopes, frequently flooded-----	915	0.2
GrrA	Gracemore clay loam, saline, 0 to 1 percent slopes, occasionally flooded-----	983	0.2
GtbB	Gotebo loam, 1 to 3 percent slopes-----	1,694	0.4
HdmB	Hardeman fine sandy loam, 1 to 3 percent slopes-----	2,948	0.7
HdmC	Hardeman fine sandy loam, 3 to 5 percent slopes-----	2,357	0.6
HfkA	Hayfork silty clay loam, 0 to 1 percent slopes, rarely flooded-----	999	0.2
HksA	Headrick loamy sand, 0 to 1 percent slopes-----	1,685	0.4
HolA	Hollister silty clay loam, 0 to 1 percent slopes-----	21,475	5.2
HrAC	Harmon-Aspermont complex, 1 to 5 percent slopes-----	167	*
HSAF	Hardeman-Southside-Arnett complex, 3 to 20 percent slopes-----	11,310	2.7
JesC	Jester fine sand, 1 to 5 percent slopes-----	1,908	0.5
KcRG	Knoco soils and Rock outcrop, 12 to 40 percent slopes-----	21,062	5.1
KoBE	Knoco-Badland complex, 1 to 12 percent slopes-----	12,737	3.1
KRCF	Knoco, Rock outcrop, and Cottonwood soils, 2 to 20 percent slopes-----	7,230	1.8
LacB	La Casa silty clay loam, 1 to 3 percent slopes-----	6,853	1.7
LnuA	Lincoln loamy sand, 0 to 1 percent slopes, occasionally flooded-----	2,932	0.7
LnWA	Lincoln and Westola soils, 0 to 1 percent slopes, frequently flooded-----	6,051	1.5
LwtA	Lawton loam, 0 to 1 percent slopes-----	3,386	0.8
LwtB	Lawton loam, 1 to 3 percent slopes-----	2,726	0.7
LwtC2	Lawton loam, 3 to 5 percent slopes, eroded-----	608	0.1
M-W	Miscellaneous water-----	96	*
MagB	Madge loam, 1 to 3 percent slopes-----	4,724	1.1
MdgB	Madge fine sandy loam, 1 to 3 percent slopes-----	7,482	1.8
MknB	McKnight fine sandy loam, 1 to 3 percent slopes-----	1,210	0.3
MktB	McKnight loamy fine sand, 0 to 3 percent slopes-----	2,702	0.7

See footnote at end of table.

# Soil Survey of Greer County, Oklahoma

## Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
MktC2	McKnight loamy fine sand, 3 to 5 percent slopes, eroded-----	4,615	1.1
NpsB	Nipsum silty clay loam, 0 to 2 percent slopes-----	1,347	0.3
NstC	Nobscot sand, 2 to 5 percent slopes-----	4,155	1.0
OakA	Oakley loam, 0 to 1 percent slopes-----	941	0.2
OakB	Oakley loam, 1 to 3 percent slopes-----	1,315	0.3
Ozka	Ozark fine sandy loam, 0 to 1 percent slopes-----	3,733	0.9
PIT	Pits-----	477	0.1
QhTC	Quanah-Talpa complex, 1 to 5 percent slopes-----	203	*
QnRG	Quinlan-Rock outcrop complex, 12 to 45 percent slopes-----	504	0.1
RakA	Roark loam, 0 to 1 percent slopes-----	10,087	2.5
RKBG	Rock outcrop-Brico complex, 8 to 50 percent slopes-----	1,152	0.3
RKO	Rock outcrop, granite-----	2,447	0.6
RuuA	Rups silty clay loam, 0 to 1 percent slopes, occasionally flooded-----	831	0.2
RuWA	Rups silty clay loam, 0 to 1 percent slopes, frequently flooded-----	820	0.2
SKRG	Spikebox-Knoco-Rock outcrop complex, 12 to 40 percent slopes-----	1,321	0.3
SpDB	Springer and Devol loamy sands, 0 to 3 percent slopes-----	10,622	2.6
SpIA	Spur loam, 0 to 1 percent slopes, occasionally flooded-----	2,756	0.7
SurA	Spur clay loam, 0 to 1 percent slopes, rarely flooded-----	3,107	0.8
SuuA	Spur clay loam, 0 to 1 percent slopes, occasionally flooded-----	12,388	3.0
SuWA	Spur clay loam, 0 to 1 percent slopes, frequently flooded-----	5,816	1.4
TARD	Talpa-Aspermont-Rock outcrop complex, 1 to 8 percent slopes-----	5,949	1.4
TilA	Tillman clay loam, 0 to 1 percent slopes-----	1,277	0.3
TilB	Tillman clay loam, 1 to 3 percent slopes-----	4,407	1.1
TipA	Tipton loam, 0 to 1 percent slopes-----	7,825	1.9
TlvB	Tilvern clay loam, 1 to 3 percent slopes-----	4,947	1.2
TpfA	Tipton fine sandy loam, 0 to 1 percent slopes-----	3,872	0.9
TrwB	Treadway silty clay loam, 0 to 2 percent slopes-----	2,707	0.7
VeKE	Vernon-Knoco complex, 1 to 12 percent slopes-----	12,909	3.1
VerC	Vernon clay loam, 3 to 5 percent slopes-----	3,609	0.9
VeTE	Vernon-Talpa complex, 1 to 12 percent slopes, stony-----	5,005	1.2
W	Water-----	5,554	1.3
WlwB	Willow loam, 1 to 3 percent slopes-----	4,877	1.2
WooB	Woodward loam, 1 to 3 percent slopes-----	925	0.2
WooC	Woodward loam, 3 to 5 percent slopes-----	1,256	0.3
WoQE	Woodward-Quinlan complex, 5 to 12 percent slopes-----	2,067	0.5
WslA	Westola fine sandy loam, 0 to 1 percent slopes, occasionally flooded----	6,374	1.5
WstA	Westola fine sandy loam, 0 to 1 percent slopes, rarely flooded-----	910	0.2
WtlA	Westill clay loam, 0 to 1 percent slopes-----	3,292	0.8
WtlB	Westill clay loam, 1 to 3 percent slopes-----	16,736	4.1
	Total-----	411,642	100.0

\* Less than 0.1 percent.

## **AceB—Acme silt loam, 0 to 2 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 59 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 5 to 250 acres

*Note:* A fluctuating water table affects this map unit in years of average or above average precipitation.

### ***Component Description***

#### **Acme**

*Composition:* 85 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium

*Slope:* 0 to 2 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 8.4 inches

*Depth to the top of the seasonal high water table:* 4.0 to 6.0

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078BY079TX Loamy PE 25-36

#### ***Typical profile:***

Ap—0 to 12 inches; silt loam

Bk—12 to 24 inches; silty clay loam

Bky1—24 to 44 inches; gypsiferous loam

Bky2—44 to 55 inches; gypsiferous loam

BCy—55 to 80 inches; gypsiferous loam

*Representative profile location:* Greer County, Oklahoma; 300 feet south and 2,300 feet west of the northeast corner of Section 2, T.6 N., R.24 W. Latitude—35 degrees, 1 minutes, 39.43 seconds N; Longitude—99 degrees, 42 minutes, 16.07 seconds W. (NAD83) USGS Quadrangle: Plainview.

### ***Additional Components***

Unnamed: 10 percent

Hollister: 5 percent

## **ArHF—Arnett-Hardeman complex, 3 to 15 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

*Note:* Areas of this map unit have been mined for gravel that was used for roadbed material.

### ***Component Description***

#### **Arnett**

*Composition:* 45 percent

*Geomorphic setting:* Stream terrace on valley

*Position on landform:* Riser

*Parent material:* Loamy alluvium over gravelly alluvium

*Slope:* 3 to 8 percent

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 8.8 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 4e

*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

A—0 to 15 inches; sandy loam

Bt—15 to 40 inches; sandy clay loam

2Bt—40 to 58 inches; gravelly sandy clay loam

2BC—58 to 80 inches; gravelly coarse sandy loam

*Representative profile location:* Jackson County, Oklahoma; 100 feet north and 170 feet east of the southwest corner of Section 20, T.4 N., R.19 W. Latitude—34 degrees, 47 minutes, 53 seconds N; Longitude—99 degrees, 12 minutes, 45 seconds W. USGS Quadrangle: Warren.

#### **Hardeman**

*Composition:* 40 percent

*Geomorphic setting:* Stream terrace on valley

*Position on landform:* Riser

*Parent material:* Coarse-loamy alluvium and eolian deposits

*Slope:* 3 to 15 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

## Soil Survey of Greer County, Oklahoma

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderately rapid

*Drainage class:* Well drained

*Available water capacity:* About 7.7 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

A—0 to 7 inches; fine sandy loam

Bw—7 to 40 inches; fine sandy loam

Bk—40 to 60 inches; loam

BCK—60 to 80 inches; fine sandy loam

*Representative profile location:* Jackson County, Oklahoma; 2,520 feet north and 2,600 feet west of the southeast corner of Section 31, T.3 N., R.18 W. Latitude—34 degrees, 41 minutes, 19 seconds N; Longitude—99 degrees, 07 minutes, 53 seconds W. USGS Quadrangle: Headrick.

### ***Additional Components***

Southside: 10 percent

Westola: 5 percent

## **ArnB—Arnett sandy loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Arnett**

*Composition:* 85 percent

*Geomorphic setting:* Terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium over gravelly alluvium

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 7.9 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated: 2e*

*Land capability irrigated: 2e*

*Ecological site number and name: R078CY110TX Sandy Loam Prairie PE 31-44*

*Typical profile:*

Ap—0 to 4 inches; sandy loam

Bt—4 to 21 inches; sandy clay loam

2Btk—21 to 50 inches; gravelly sandy clay loam

2Bck—50 to 67 inches; gravelly clay loam

*Representative profile location: Jackson County, Oklahoma; 1,450 feet south and 2,300 feet east of the northwest corner of Section 26, T.1 S., R.24 W. Latitude—34 degrees, 26 minutes, 50 seconds N; Longitude—99 degrees, 40 minutes, 58 seconds W. USGS Quadrangle: Eldorado.*

***Additional Components***

Farry: 10 percent

Mcknight: 5 percent

**ArnC—Arnett sandy loam, 3 to 5 percent slopes**

***Map Unit Setting***

*MLRA: 78C*

*Elevation: 1,000 to 2,000 feet*

*Mean annual precipitation: 20 to 28 inches*

*Mean annual air temperature: 57 to 64 degrees F*

*Frost-free period: 180 to 230 days*

*Shape and configuration: Irregular, 10 to 300 acres*

***Component Description***

**Arnett**

*Composition: 83 percent*

*Geomorphic setting: Terrace on alluvial plain*

*Position on landform: Riser*

*Parent material: Loamy alluvium over gravelly alluvium*

*Slope: 3 to 5 percent*

*Runoff: Low*

*Depth: Greater than 60 inches*

*Slowest permeability class of the soil to 60 inches or above a restrictive layer: Moderate*

*Slowest permeability class within 80 inches: Moderate*

*Drainage class: Well drained*

*Available water capacity: About 7.1 inches*

*Depth to the top of the seasonal high water table: Greater than 6 feet*

*Flooding: None*

*Ponding: None*

***Interpretive Groups***

*Land capability nonirrigated: 3e*

*Land capability irrigated: 3e*

*Ecological site number and name: R078CY110TX Sandy Loam Prairie PE 31-44*

*Typical profile:*

Ap—0 to 7 inches; sandy loam

## Soil Survey of Greer County, Oklahoma

Bt—7 to 17 inches; clay loam  
2Bt—17 to 31 inches; gravelly sandy clay loam  
2BC—31 to 44 inches; gravelly coarse sandy loam  
2Ck—44 to 57 inches; stratified loamy coarse sand to gravelly clay loam  
3Ck—57 to 80 inches; stratified loamy coarse sand to clay loam

*Representative profile location:* Jackson County, Oklahoma; 850 feet south and 250 feet west of the northeast corner of Section 22, T.1 S., R.24 W. Latitude—34 degrees, 27 minutes, 44 seconds N; Longitude—99 degrees, 41 minutes, 30 seconds W. USGS Quadrangle: Eldorado.

### ***Additional Components***

Mcknight: 10 percent  
Farry: 7 percent

## **AsmB—Aspermont silt loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B  
*Elevation:* 1,400 to 2,000 feet  
*Mean annual precipitation:* 20 to 26 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Aspermont**

*Composition:* 80 percent  
*Geomorphic setting:* Hill on karst  
*Position on landform:* Interfluve  
*Parent material:* Fine-silty colluvium over silty and clayey residuum weathered from shale and siltstone  
*Slope:* 1 to 3 percent  
*Runoff:* Medium  
*Depth:* Densic bedrock at 40 to 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderately slow  
*Slowest permeability class within 80 inches:* Impermeable  
*Drainage class:* Well drained  
*Available water capacity:* About 9.3 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e  
*Land capability irrigated:* 3e  
*Ecological site number and name:* R078BY079TX Loamy PE 25-36  
*Typical profile:*  
Ap—0 to 6 inches; silt loam  
Bk1—6 to 34 inches; silty clay loam  
Bk2—34 to 43 inches; silty clay loam

## Soil Survey of Greer County, Oklahoma

2BCK—43 to 50 inches; silty clay loam

2Cd—50 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 950 feet north and 1,550 feet east of the southwest corner of Section 22, T.2 N., R.23 W. Latitude—34 degrees, 37 minutes, 33 seconds N; Longitude—99 degrees, 36 minutes, 33 seconds W. USGS Quadrangle: Duke.

### ***Additional Components***

La Casa: 14 percent

Cottonwood: 3 percent

Harmon: 3 percent

## **AsmC—Aspermont silt loam, 3 to 5 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 26 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 5 to 350 acres

### ***Component Description***

#### **Aspermont**

*Composition:* 81 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Side slope

*Parent material:* Fine-silty colluvium over silty and clayey residuum weathered from shale and siltstone

*Slope:* 3 to 5 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 9.3 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078BY079TX Loamy PE 25-36

#### ***Typical profile:***

Ap—0 to 8 inches; silt loam

Bk1—8 to 35 inches; silty clay loam

Bk2—35 to 50 inches; silty clay loam

2Cd—50 to 80 inches; silty clay



*Representative profile location:* Jackson County, Oklahoma; 1,700 feet south and 450 feet east of the northwest corner of Section 14, T.1 S., R.23 W. Latitude—34 degrees, 28 minutes, 27 seconds N; Longitude—99 degrees, 35 minutes, 05 seconds W. USGS Quadrangle: Quanah NE.

***Additional Components***

La Casa: 13 percent  
Cottonwood: 3 percent  
Harmon: 3 percent

**BekA—Beckman silty clay, 0 to 1 percent slopes,  
occasionally flooded**

***Map Unit Setting***

*MLRA:* 78B  
*Elevation:* 1,000 to 1,990 feet  
*Mean annual precipitation:* 24 to 33 inches  
*Mean annual air temperature:* 58 to 62 degrees F  
*Frost-free period:* 200 to 220 days  
*Shape and configuration:* Long and narrow, 5 to 6,000 acres

***Component Description***

**Beckman** (fig. 2)

*Composition:* 85 percent  
*Geomorphic setting:* Flood plain on upland  
*Parent material:* Calcareous and saline clayey alluvium derived from claystone  
*Slope:* 0 to 1 percent  
*Runoff:* High  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow  
*Slowest permeability class within 80 inches:* Very slow  
*Drainage class:* Moderately well drained  
*Available water capacity:* About 6.5 inches  
*Depth to the top of the seasonal high water table:* 3.0 to 6.0  
*Flooding:* Occasional  
*Ponding:* None  
*Salt affected:* Saline within 30 inches  
*Sodium affected:* Sodic within 30 inches

***Interpretive Groups***

*Land capability nonirrigated:* 4w  
*Ecological site number and name:* R078CY046OK Clayey Saline Bottomland PE 32-44

***Typical profile:***

A—0 to 4 inches; silty clay  
Bk—4 to 14 inches; silty clay  
Bkyz—14 to 41 inches; silty clay  
Cyz—41 to 80 inches; silty clay

*Representative profile location:* Beckham County, Oklahoma; 430 feet north and 675 feet east of the southwest corner of Section 28, T.8 N., R.23 W. Latitude—35 degrees, 07 minutes, 57 seconds N; Longitude—99 degrees, 38 minutes, 23 seconds W. USGS Quadrangle: Delhi.

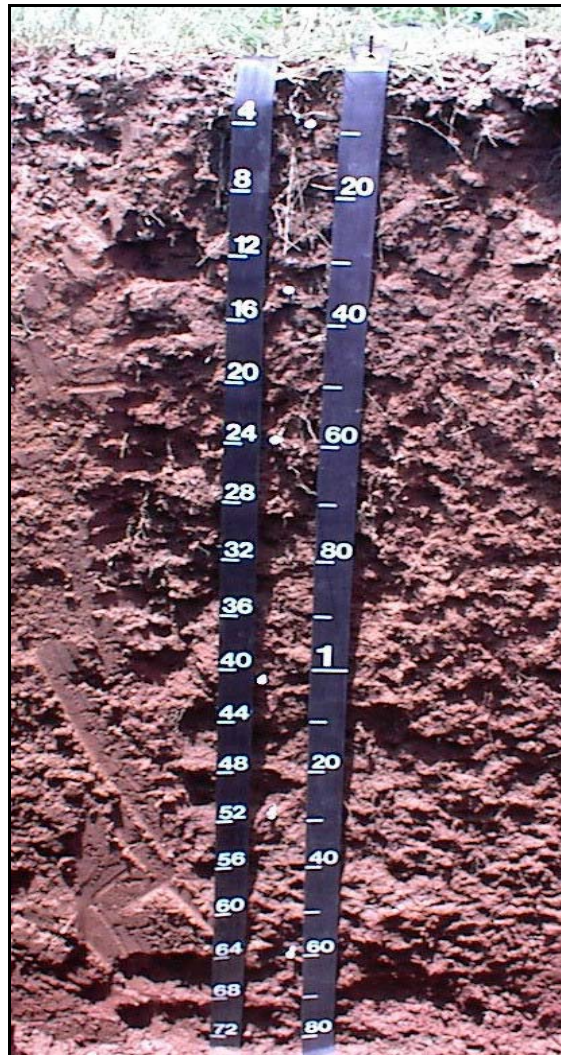


Figure 2.—Profile of Beckman silty clay, 0 to 1 percent slopes, occasionally flooded. The scale on the left is in inches; scale on the right is in centimeters.

#### ***Additional Components***

Duke: 10 percent  
Rups: 3 percent  
Spur: 2 percent

### **BfdB—Burford loam, 1 to 3 percent slopes**

#### ***Map Unit Setting***

MLRA: 78C  
Elevation: 1,000 to 2,000 feet  
Mean annual precipitation: 22 to 28 inches  
Mean annual air temperature: 60 to 64 degrees F  
Frost-free period: 200 to 230 days  
Shape and configuration: Irregular, 10 to 300 acres

### ***Component Description***

**Burford** (fig. 3)

*Composition:* 90 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Shoulder

*Parent material:* Silty alluvium over silty and clayey residuum weathered from shale and siltstone

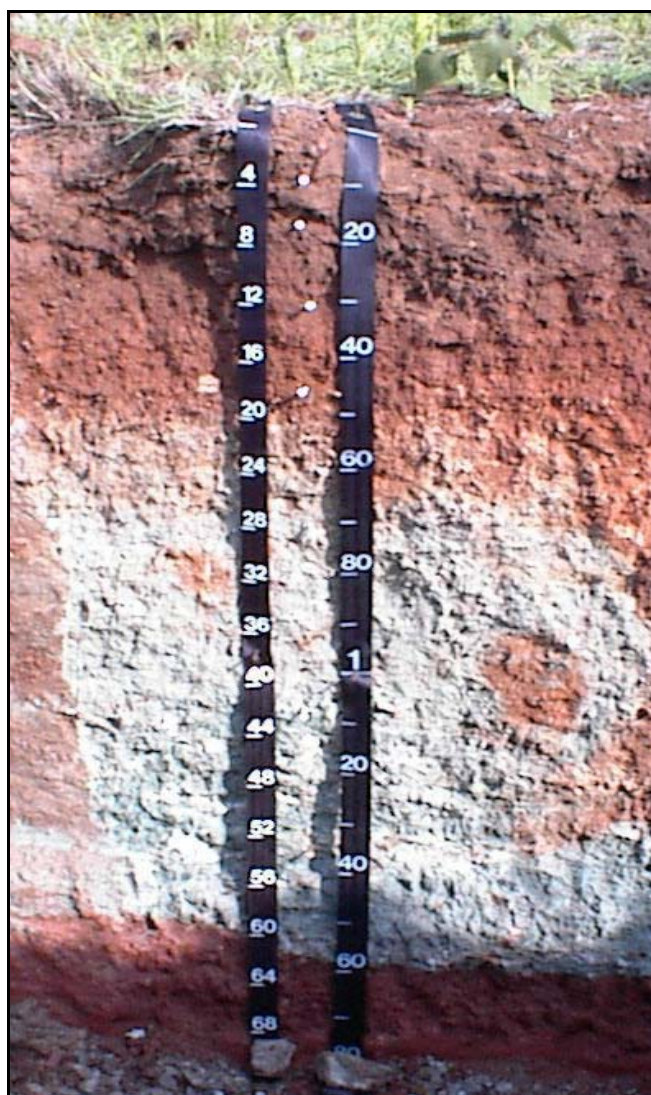
*Slope:* 1 to 3 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Impermeable



**Figure 3.—Profile of Burford loam, 1 to 3 percent slopes. A lithologic discontinuity occurs at a depth of 25 inches. Shale and siltstone bedrock occur below a depth of 53 inches. The scale on the left is in inches; scale on the right is in centimeters.**

## Soil Survey of Greer County, Oklahoma

*Drainage class:* Well drained

*Available water capacity:* About 7.9 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY057OK Loamy Prairie (calcareous) PE 32-44

*Typical profile:*

Ap—0 to 5 inches; loam

Bw—5 to 12 inches; silty clay loam

Bk—12 to 30 inches; clay loam

2BCK—30 to 43 inches; silty clay loam

2Cd—43 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 2,350 feet south and 1,400 feet east of the northwest corner of Section 19, T.3 N., R.20 W. Latitude—34 degrees, 43 minutes, 08 seconds N; Longitude—99 degrees, 20 minutes, 50 seconds W. USGS Quadrangle: Altus.

### ***Additional Components***

Tillman: 5 percent

Vernon: 5 percent

## **BfdC—Burford loam, 3 to 5 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 5 to 100 acres

### ***Component Description***

#### **Burford**

*Composition:* 92 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Backslope

*Parent material:* Silty alluvium over silty and clayey residuum weathered from shale and siltstone

*Slope:* 3 to 5 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 7.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY057OK Loamy Prairie (calcareous) PE 32-44

*Typical profile:*

Ap—0 to 6 inches; loam

Bk—6 to 24 inches; clay loam

2Bk—24 to 40 inches; silty clay loam

2Cd—40 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 500 feet south and 50 feet west of the northeast corner of Section 36, T.1 N., R.20 W. Latitude—34 degrees, 31 minutes, 12 seconds N; Longitude—99 degrees, 14 minutes, 45 seconds W. USGS Quadrangle: Tipton.

### ***Additional Components***

Vernon: 5 percent

Spikebox: 3 percent

## **BfSC2—Burford-Spikebox complex, 3 to 5 percent slopes, eroded**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 1,800 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Long and narrow, 5 to 250 acres

*Note:* This map unit has sustained moderate erosion because of cultivation. The forage production and species composition of native grasses that have been reseeded can vary widely from site to site. This is because of the degree of erosion and seed source of grasses that have been planted. For information about the original native vegetation, refer to the range site data for the map unit.

### ***Component Description***

#### **Burford**

*Composition:* 50 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Backslope

*Parent material:* Silty alluvium over silty and clayey residuum weathered from shale and siltstone

*Slope:* 3 to 5 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

## Soil Survey of Greer County, Oklahoma

*Available water capacity:* About 7.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY856OK Eroded Loamy Prairie PE 32-44

#### ***Typical profile:***

Ap—0 to 6 inches; loam

Bk—6 to 35 inches; silty clay loam

BC—35 to 40 inches; silty clay loam

2Cd—40 to 80 inches; clay loam

*Representative profile location:* Greer County, OK; 1,850 feet north and 950 feet west of the southeast corner of Section 5, T.6 N., R.24 W. Latitude—35 degrees, 01 minutes, 18 seconds N; Longitude—99 degrees, 45 minutes, 04 seconds W. USGS Quadrangle: Minnow Creek.

### **Spikebox**

*Composition:* 40 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on landform:* Side slope

*Parent material:* Loamy residuum weathered from sandstone and siltstone

*Slope:* 3 to 5 percent

*Runoff:* Medium

*Depth:* Paralithic bedrock at 8 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 2.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 4s

*Land capability irrigated:* 4s

*Ecological site number and name:* R078CY883OK Eroded Shallow Prairie PE 32-44

#### ***Typical profile:***

Ap—0 to 7 inches; loam

BC—7 to 15 inches; loam

Cr—15 to 40 inches; bedrock

*Representative profile location:* Greer County, OK; 1,950 feet north and 950 feet west of the southeast corner of Section 5, T.6 N., R.24 W. Latitude—35 degrees, 01 minutes, 19 seconds N; Longitude—99 degrees, 45 minutes, 04 seconds W. USGS Quadrangle: Minnow Creek.

### ***Additional Components***

Gotebo: 7 percent

Vernon: 3 percent

## **BfSE—Burford-Spikebox complex, 3 to 12 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 1,800 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Long and narrow, 5 to 500 acres

### ***Component Description***

#### **Burford**

*Composition:* 50 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Backslope

*Parent material:* Silty alluvium over silty and clayey residuum weathered from shale and siltstone

*Slope:* 3 to 12 percent

*Runoff:* High

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 10.7 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078CY057OK Loamy Prairie (calcareous) PE 32-44

*Typical profile:*

A—0 to 10 inches; loam

Bw—10 to 29 inches; loam

Bk—29 to 44 inches; loam

2BCk—44 to 57 inches; clay loam

2Cd—57 to 80 inches; clay loam

*Representative profile location:* Greer County, OK; 2,550 feet north and 2,000 feet west of the southeast corner of Section 14, T.6 N., R.23 W. Latitude—34 degrees, 59 minutes, 39 seconds N; Longitude—99 degrees, 35 minutes, 47 seconds W. USGS Quadrangle: Mangum North.

#### **Spikebox**

*Composition:* 40 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on landform:* Side slope

*Parent material:* Loamy residuum weathered from sandstone and siltstone

*Slope:* 3 to 12 percent

*Runoff:* High

*Depth:* Paralithic bedrock at 8 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

## Soil Survey of Greer County, Oklahoma

*Slowest permeability class within 80 inches:* Moderately slow  
*Drainage class:* Well drained  
*Available water capacity:* About 2.1 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 6e  
*Ecological site number and name:* R078CY084OK Shallow Prairie (south) PE 32-44

#### ***Typical profile:***

A—0 to 6 inches; loam  
BC—6 to 14 inches; loam  
Cr—14 to 40 inches; bedrock

*Representative profile location:* Greer County, OK; 2,700 feet north and 1,900 feet west of the southeast corner of Section 14, T.6 N., R.23 W. Latitude—34 degrees, 59 minutes, 44 seconds N; Longitude—99 degrees, 35 minutes, 45 seconds W. USGS Quadrangle: Mangum North.

### ***Additional Components***

Gotebo: 7 percent  
Vernon: 3 percent

## **BriE—Brico cobbly loam, 3 to 12 percent slopes**

### ***Map Unit Setting***

*MLRA:* 82B  
*Elevation:* 1,000 to 2,490 feet  
*Mean annual precipitation:* 27 to 33 inches  
*Mean annual air temperature:* 58 to 61 degrees F  
*Frost-free period:* 200 to 220 days  
*Shape and configuration:* Irregular, 5 to 150 acres

### ***Component Description***

#### **Brico**

*Composition:* 85 percent  
*Geomorphic setting:* Mountain slope on mountains  
*Position on landform:* Mountain flank  
*Parent material:* Clayey colluvium derived from granite  
*Slope:* 3 to 12 percent  
*Runoff:* High  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately slow  
*Slowest permeability class within 80 inches:* Moderately slow  
*Drainage class:* Well drained  
*Available water capacity:* About 6.1 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None



***Interpretive Groups***

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R082BY004OK Boulder Ridge Savannah PE 38-48

*Typical profile:*

A—0 to 11 inches; cobbly loam

Bt1—11 to 24 inches; very cobbly clay

Bt2—24 to 40 inches; very cobbly clay loam

BC—40 to 72 inches; extremely cobbly clay loam

*Representative profile location:* Kiowa County, Oklahoma; 600 feet south and 50 feet east of the northwest corner of Section 11, T.3 N., R.16 W. Latitude—34 degrees, 45 minutes, 10 seconds N; Longitude—98 degrees, 51 minutes, 39 seconds W.

USGS Quadrangle: Cooperton, OK.

***Additional Components***

Lawton: 10 percent

Rock outcrop: 5 percent

**BukA—Bukreek loam, 0 to 1 percent slopes**

***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,500 to 2,200 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 58 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 50 to 250 acres

***Component Description***

**Bukreek**

*Composition:* 92 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous fine-loamy alluvium

*Slope:* 0 to 1 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 9.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R078BY081TX Loamy Prairie PE 25-36

*Typical profile:*

Ap—0 to 11 inches; loam

Bt1—11 to 18 inches; clay loam

## Soil Survey of Greer County, Oklahoma

Bt2—18 to 30 inches; clay loam  
Btk—30 to 74 inches; clay loam  
BCk—74 to 80 inches; loam

*Representative profile location:* Greer County, Oklahoma; 100 feet north and 1,100 feet west of the southeast corner of Section 13, T.6 N., R.22 W. Latitude—34 degrees, 59 minutes, 15 seconds N; Longitude—99 degrees, 28 minutes, 13 seconds W. USGS Quadrangle: Granite.

### ***Additional Components***

Dodson: 8 percent

## **CarB—Carey loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,500 to 2,200 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 59 to 63 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 10 to 200 acres

### ***Component Description***

#### **Carey**

*Composition:* 90 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Shoulder

*Parent material:* Fine-silty alluvium over silty residuum weathered from sandstone

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Densic bedrock at 60 to 80 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 9.8 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078BY081TX Loamy Prairie PE 25-36

#### ***Typical profile:***

A—0 to 15 inches; loam

Bt—15 to 42 inches; clay loam

BCk—42 to 65 inches; loam

Cd—65 to 80 inches; loam

*Representative profile location:* Harmon County, Oklahoma; 150 feet south and 2,500 feet east of the northwest corner of Section 36, T.6 N., R.26 W. Latitude—34 degrees, 57 minutes, 27 seconds N; Longitude—99 degrees, 53 minutes, 48.5 seconds W. USGS Quadrangle: Madge.

***Additional Components***

Madge: 5 percent  
Woodward: 5 percent

**CawA—Carwile fine sandy loam, 0 to 1 percent slopes,  
frequently ponded**

***Map Unit Setting***

MLRA: 78C  
Elevation: 1,000 to 2,000 feet  
Mean annual precipitation: 22 to 38 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 185 to 230 days  
Shape and configuration: Circular, 5 to 15 acres

***Component Description***

**Carwile**

Composition: 90 percent  
Geomorphic setting: Depression on dune field on sandhills on upland  
Parent material: Loamy and clayey alluvium  
Slope: 0 to 1 percent  
Runoff: Negligible  
Depth: Greater than 60 inches  
Slowest permeability class of the soil to 60 inches or above a restrictive layer: Very slow  
Slowest permeability class within 80 inches: Very slow  
Drainage class: Poorly drained  
Available water capacity: About 9.4 inches  
Depth to the top of the seasonal high water table: 0.0 to 3.0 feet  
Flooding: None  
Ponding: Frequent

***Interpretive Groups***

Land capability nonirrigated: 5w  
Ecological site number and name: R078CY098OK Depressional Upland PE 32-44

***Typical profile:***

A—0 to 15 inches; fine sandy loam  
Bt1—15 to 27 inches; clay loam  
Bt2—27 to 57 inches; sandy clay loam  
BC—57 to 80 inches; fine sandy loam

Representative profile location: Greer County, Oklahoma; 1,500 feet south and 1,000 feet west of the northeast corner of Section 26, T.7 N., R.22 W. Latitude—35 degrees, 03 minutes, 17 seconds N; Longitude—99 degrees, 29 minutes, 12 seconds W. USGS Quadrangle: Lake Creek.

***Additional Components***

Headrick: 5 percent  
Ozark: 5 percent

## **CVRD—Cottonwood-Vinson-Rock outcrop complex, 1 to 8 percent slopes**

### ***Map Unit Setting*** (fig. 4)

*MLRA:* 78B

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Cottonwood**

*Composition:* 42 percent

*Geomorphic setting:* Hillslope on hill on karst

*Position on hillslope:* Backslope

*Parent material:* Calcareous loamy residuum weathered from gypsum

*Slope:* 1 to 8 percent

*Runoff:* Very high

*Depth:* Paralithic bedrock at 3 to 12 inches; lithic bedrock at 8 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Very slow

*Drainage class:* Well drained

*Available water capacity:* About 1.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None



**Figure 4.—Landscape of an area of Cottonwood-Vinson-Rock outcrop complex, 1 to 8 percent slopes.**

***Interpretive Groups***

*Land capability nonirrigated: 7s*

*Ecological site number and name: R078BY076TX Gyp PE 25-36*

*Typical profile:*

- A—0 to 5 inches; silt loam
- Cy—5 to 8 inches; gypsiferous silt loam
- Cr—8 to 15 inches; gypsiferous bedrock
- R—15 to 20 inches; gypsiferous bedrock

*Representative profile location:* Jackson County, Oklahoma; 3,600 feet south and 1,650 feet east of the northwest corner of Section 25, T.1 N., R.23 W. Latitude—34 degrees, 31 minutes, 34 seconds N; Longitude—99 degrees, 34 minutes, 23 seconds W. USGS Quadrangle: Prairie Hill.

***Interpretive Groups***

*Land capability nonirrigated: 7s*

*Ecological site number and name: R078BY076TX Gyp PE 25-36*

*Typical profile:*

- A—0 to 5 inches; silt loam
- Cy—5 to 8 inches; gypsiferous silt loam
- Cr—8 to 15 inches; gypsiferous bedrock
- R—15 to 20 inches; gypsiferous bedrock

*Representative profile location:* Jackson County, Oklahoma; 3,600 feet south and 1,650 feet east of the northwest corner of Section 25, T.1 N., R.23 W. Latitude—34 degrees, 31 minutes, 34 seconds N; Longitude—99 degrees, 34 minutes, 23 seconds W. USGS Quadrangle: Prairie Hill.

**Vinson**

*Composition:* 25 percent

*Geomorphic setting:* Hillslope on hill on karst

*Position on hillslope:* Shoulder

*Parent material:* Calcareous loamy residuum weathered from gypsum

*Slope:* 1 to 5 percent

*Runoff:* High

*Depth:* Lithic bedrock at 20 to 40 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Very slow

*Drainage class:* Well drained

*Available water capacity:* About 4.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated: 4e*

*Ecological site number and name: R078BY079TX Loamy PE 25-36*

*Typical profile:*

- A—0 to 4 inches; silt loam
- Bw—4 to 15 inches; silty clay loam
- Bk—15 to 22 inches; silty clay loam
- Cr—22 to 28 inches; bedrock
- R—28 to 60 inches; bedrock

## Soil Survey of Greer County, Oklahoma

*Representative profile location:* Jackson County, Oklahoma; 3,200 feet south and 1,700 feet east of the northwest corner of Section 25, T.1 N., R.23 W. Latitude—34 degrees, 31 minutes, 34 seconds N; Longitude—99 degrees, 34 minutes, 23 seconds W. USGS Quadrangle: Prairie Hill.

### **Rock outcrop**

*Composition:* 23 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Side slope

*Parent material:* Gypsum

*Slope:* 1 to 8 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Very slow

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 8s

*Typical profile:*

R—0 to 60 inches; bedrock

*Representative profile location:* Jackson County, Oklahoma; 3,400 feet south and 1,700 feet east of the northwest corner of Section 25, T.1 N., R.23 W. Latitude—34 degrees, 31 minutes, 36 seconds N; Longitude—99 degrees, 31 minutes, 39 seconds W. USGS Quadrangle: Prairie Hill.

### **Additional Components**

Aspermont: 7 percent

Spur: 3 percent

## **DAM—Large dam**

### **Map Unit Setting**

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 59 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 2 to 35 acres

*Note:* These structures are upstream flood control dams.

### **Component Description**

#### **Dam**

*Composition:* 100 percent

*Geomorphic setting:* Artificial levee

*Parent material:* Mine spoil or earthy fill

*Slope:* 0 to 45 percent

*Runoff:* Very high

*Depth:* Greater than 60 inches

*Slowest permeability class within 80 inches:* Slow

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 8

*Typical profile:*

C—0 to 80 inches; variable

*Representative profile location:* Jackson County, Oklahoma; 1,800 feet south and 2,500 feet east of the northwest corner of Section 30, T.3 N., R.22 W. Latitude—34 degrees, 42 minutes, 19 seconds N; Longitude—99 degrees, 33 minutes, 11 seconds W. USGS Quadrangle: Duke.

**DeSD—Devol and Springer loamy sands, 3 to 8 percent slopes**

***Map Unit Setting*** (fig. 5)

*MLRA:* 78C

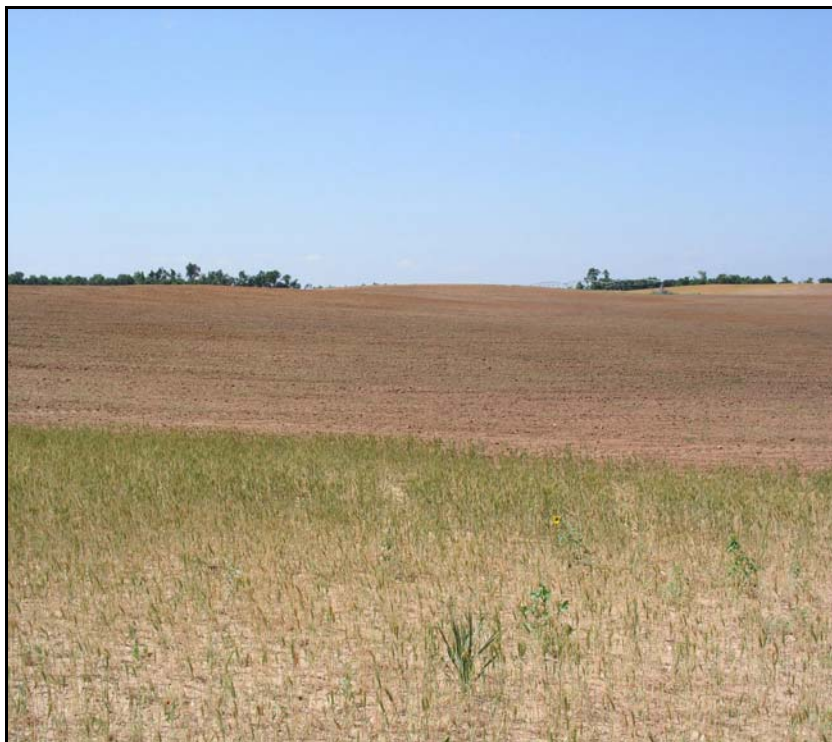
*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 450 acres



**Figure 5.—Landscape of an area of Devol and Springer loamy sands, 3 to 8 percent slopes.**

### **Component Description**

#### **Devol**

*Composition:* 60 percent

*Geomorphic setting:* Dune on sand sheet on stream terrace on alluvial plain

*Parent material:* Coarse-loamy alluvium and sandy eolian deposits

*Slope:* 3 to 8 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderately rapid

*Drainage class:* Well drained

*Available water capacity:* About 5.8 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 4e

*Land capability irrigated:* 4e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

*Typical profile:*

Ap—0 to 8 inches; loamy sand

Bt1—8 to 28 inches; fine sandy loam

Bt2—28 to 47 inches; fine sandy loam

BC—47 to 62 inches; loamy sand

C—62 to 80 inches; loamy sand

*Representative profile location:* Greer County, Oklahoma; 850 feet north and 1,700 feet west of the southeast corner of Section 35, T.7 N., R.21 W. Latitude—35 degrees, 1 minute, 55 seconds N; Longitude—99 degrees, 23 minutes, 1 second W. USGS Quadrangle: Lake Creek.

#### **Springer**

*Composition:* 27 percent

*Geomorphic setting:* Dune on sand sheet on stream terrace on alluvial plain

*Parent material:* Coarse-loamy eolian sands over loamy alluvium

*Slope:* 3 to 8 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 6.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 4e

*Land capability irrigated:* 4e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44



*Typical profile:*

Ap—0 to 15 inches; loamy sand  
Bt—15 to 41 inches; fine sandy loam  
BC—41 to 52 inches; fine sand  
Btb—52 to 70 inches; fine sandy loam  
BCb—70 to 80 inches; loamy sand

*Representative profile location:* Greer County, Oklahoma; 2,050 feet south and 1,300 feet east of the northwest corner of Section 29, T.5 N., R.21 W. Latitude—34 degrees, 52 minutes, 48 seconds N; Longitude—99 degrees, 26 minutes, 41 seconds W. USGS Quadrangle: Granite.

***Additional Components***

Eda: 10 percent  
Grandfield: 3 percent

**DkuA—Duke silty clay, 0 to 1 percent slopes,  
occasionally flooded**

***Map Unit Setting***

MLRA: 78B  
Elevation: 1,000 to 2,000 feet  
Mean annual precipitation: 20 to 32 inches  
Mean annual air temperature: 57 to 65 degrees F  
Frost-free period: 180 to 240 days  
Shape and configuration: Long and narrow, 5 to 150 acres

***Component Description***

**Duke** (fig. 6)

Composition: 80 percent  
Geomorphic setting: Flood plain on alluvial plain  
Parent material: Calcareous clayey alluvium  
Slope: 0 to 1 percent  
Runoff: High  
Depth: Greater than 60 inches  
Slowest permeability class of the soil to 60 inches or above a restrictive layer: Very slow  
Slowest permeability class within 80 inches: Very slow  
Drainage class: Well drained  
Available water capacity: About 7.7 inches  
Depth to the top of the seasonal high water table: Greater than 6 feet  
Flooding: Occasional  
Ponding: None  
Salt affected: Saline within 30 inches  
Sodium affected: Sodic within 30 inches

***Interpretive Groups***

Land capability nonirrigated: 4w  
Ecological site number and name: R078BY070TX Clayey Bottomland PE 25-36

*Typical profile:*

A—0 to 5 inches; silty clay  
Bnyz—5 to 12 inches; clay  
Bnssyz—12 to 44 inches; silty clay  
BC—44 to 80 inches; stratified silt loam to clay

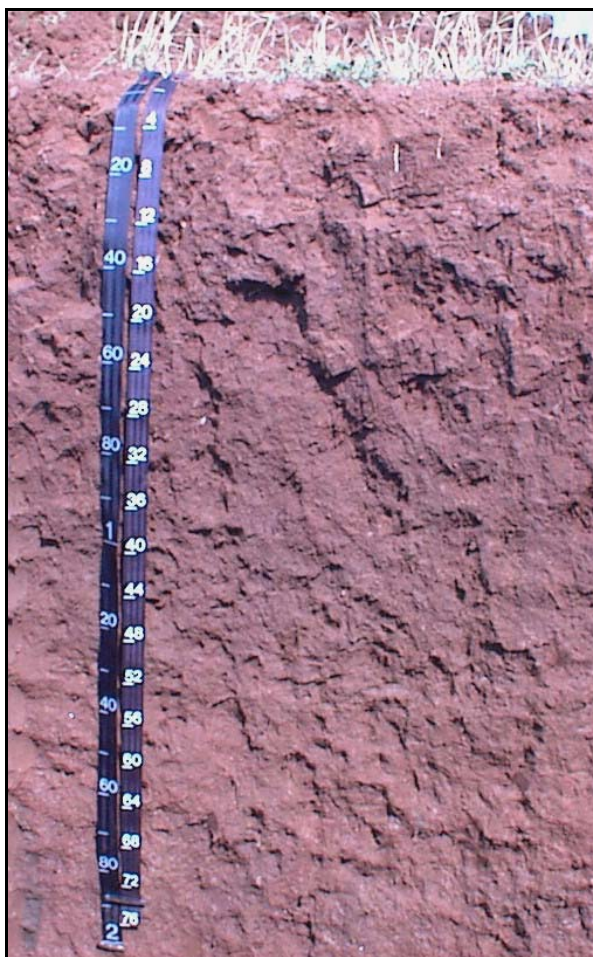


Figure 6.—Profile of Duke silty clay, 0 to 1 percent slopes, occasionally flooded. The scale on the left is in inches; scale on the right is in centimeters.

*Representative profile location:* Harmon County, Oklahoma; 1,900 feet north and 1,800 feet east of the southwest corner of Section 26, T.3 N., R.24 W. Latitude—34 degrees, 42 minutes, 4.54 seconds N; Longitude—99 degrees, 41 minutes, 47.20 seconds W. USGS Quadrangle: Mcqueen, OK.

***Additional Components***

Beckman: 7 percent  
Spur: 7 percent  
Clairemont: 6 percent

**DodA—Dodson loam, 0 to 1 percent slopes**

***Map Unit Setting***

MLRA: 78C  
Elevation: 1,500 to 2,200 feet  
Mean annual precipitation: 20 to 28 inches  
Mean annual air temperature: 58 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 10 to 3,000 acres

***Component Description***

**Dodson** (fig. 7)

*Composition:* 92 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Silty and clayey alluvium and lacustrine deposits

*Slope:* 0 to 1 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

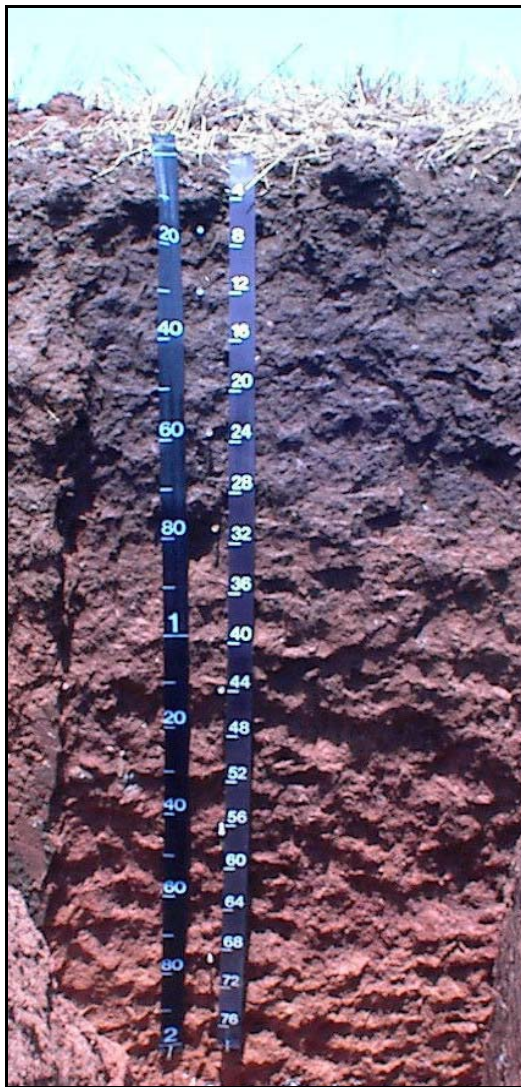


Figure 7.—Profile of Dodson loam, 0 to 1 percent slopes. The dark mollic epipedon is about 31 inches thick. The scale on the left is in centimeters; scale on the right is in inches.

## Soil Survey of Greer County, Oklahoma

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 10.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R078CY096TX Clay Loam PE 31-44

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 37 inches; clay loam

Btk—37 to 56 inches; clay loam

Bk—56 to 72 inches; sandy clay loam

BCK—72 to 80 inches; sandy loam

*Representative profile location:* Harmon County, Oklahoma; 360 feet north and 650 feet east of the southwest corner of Section 27, T. 5 N., R. 25 W. Latitude— 34 degrees, 52 minutes, 21.28 seconds N; Longitude— 99 degrees, 50 minutes, 02.57 seconds W. USGS Quadrangle: Vinson, OK.

### ***Additional Components***

Madge: 5 percent

Altus: 3 percent

## **DodB—Dodson loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,500 to 2,200 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 58 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Long and narrow, 10 to 600 acres

### ***Component Description***

#### **Dodson**

*Composition:* 87 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Silty and clayey alluvium and lacustrine deposits

*Slope:* 1 to 3 percent

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 10.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY096TX Clay Loam PE 31-44

*Typical profile:*

Ap—0 to 6 inches; loam

Bt—6 to 26 inches; clay

Btk—26 to 56 inches; clay loam

Bk—56 to 83 inches; clay loam

2BCK—83 to 91 inches; silty clay

*Representative profile location:* Harmon County, Oklahoma; 1,050 feet north and 600 feet west of the southeast corner of Section 4, T. 5 N., R. 24 W. Latitude—34 degrees, 55 minutes, 56.75 seconds N; Longitude—99 degrees, 43 minutes, 59.04 seconds W. USGS Quadrangle: Reed, OK.

### ***Additional Components***

Madge: 10 percent

Altus: 3 percent

## **EatA—Eastall silty clay, 0 to 1 percent slopes, frequently ponded**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 59 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Circular, 3 to 50 acres

*Note:* Ponding affects this map unit in the spring and summer months of years with average to above average precipitation. The duration of the ponded periods is long or very long.

### ***Component Description***

#### **Eastall**

*Composition:* 94 percent

*Geomorphic setting:* Closed depression on karst

*Position on landform:* Dip

*Parent material:* Clayey lacustrine deposits

*Slope:* 0 to 1 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Very slow

*Drainage class:* Poorly drained

*Available water capacity:* About 8.9 inches

*Depth to the top of the seasonal high water table:* At soil surface

*Flooding:* None

*Ponding:* Frequent

### ***Interpretive Groups***

*Land capability nonirrigated:* 5w

*Ecological site number and name:* R078BY078TX Lakebed PE 25-36

*Typical profile:*

A—0 to 12 inches; silty clay

Bw—12 to 19 inches; clay

Bss1—19 to 56 inches; clay

Bss2—56 to 76 inches; silty clay

Bkss—76 to 95 inches; silty clay loam

*Representative profile location:* Jackson County, Oklahoma; 2,500 feet north and 2,100 feet west of the southeast corner of Section 34, T.1 N., R.23 W. Latitude—34 degrees, 30 minutes, 50 seconds N; Longitude—99 degrees, 36 minutes, 13 seconds W. USGS Quadrangle: Prairie Hill.

### ***Additional Components***

Hollister: 3 percent

Nipsum: 3 percent

## **EdsB—Eda sand, 0 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

**Eda** (fig. 8)

*Composition:* 87 percent

*Geomorphic setting:* Dune on dune field on sandhills on upland

*Parent material:* Eolian sands

*Slope:* 0 to 3 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Rapid

*Slowest permeability class within 80 inches:* Rapid

*Drainage class:* Somewhat excessively drained

*Available water capacity:* About 3.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None





Figure 8.—Profile of Eda sand, 0 to 3 percent slopes. The scale on the left is in centimeters; scale on the right is in inches.

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY017OK Deep Sand Savannah (west) PE 32-44

#### *Typical profile:*

Ap—0 to 11 inches; sand

E and Bt—11 to 35 inches; loamy sand

C—35 to 80 inches; fine sand

*Representative profile location:* Jackson County, Oklahoma; 2,100 feet north and 475 feet west of the southeast corner of Section 17, T.4 N., R.19 W. Latitude—34 degrees, 49 minutes, 04 seconds N; Longitude—99 degrees, 12 minutes, 49 seconds W. USGS Quadrangle: Warren.

### ***Additional Components***

Devol: 8 percent

Heatly: 5 percent

## **EdsD—Eda sand, 3 to 8 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 20 to 600 acres

### ***Component Description***

#### **Eda**

*Composition:* 87 percent

*Geomorphic setting:* Dune on dune field on sandhills on upland

*Parent material:* Eolian sands

*Slope:* 3 to 8 percent

*Runoff:* Very low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Rapid

*Slowest permeability class within 80 inches:* Rapid

*Drainage class:* Somewhat excessively drained

*Available water capacity:* About 3.7 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 4e

*Land capability irrigated:* 4e

*Ecological site number and name:* R078CY017OK Deep Sand Savannah (west) PE 32-44

#### ***Typical profile:***

Ap—0 to 13 inches; sand

E and Bt—13 to 50 inches; loamy sand

C—50 to 80 inches; fine sand

*Representative profile location:* Jackson County, Oklahoma; 2,500 feet south and 1,900 feet west of the northeast corner of Section 33, T.4 N., R.20 W. Latitude—34 degrees, 46 minutes, 35 seconds N; Longitude—99 degrees, 18 minutes, 21 seconds W. USGS Quadrangle: Blair.

### ***Additional Components***

Devol: 8 percent

Grandfield: 5 percent

## **EdsF—Eda sand, 8 to 15 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F



## Soil Survey of Greer County, Oklahoma

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### **Component Description**

#### **Eda**

*Composition:* 90 percent

*Geomorphic setting:* Dune on dune field on sandhills on upland

*Parent material:* Eolian sands

*Slope:* 8 to 15 percent

*Runoff:* Very low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Rapid

*Slowest permeability class within 80 inches:* Rapid

*Drainage class:* Somewhat excessively drained

*Available water capacity:* About 3.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078CY017OK Deep Sand Savannah (west) PE 32-44

*Typical profile:*

A—0 to 18 inches; sand

E and Bt—18 to 40 inches; fine sand

C—40 to 80 inches; fine sand

*Representative profile location:* Jackson County, Oklahoma; 1,550 feet south and 2,100 feet west of the northeast corner of Section 14, T.3 N., R.20 W. Latitude—34 degrees, 44 minutes, 07 seconds N; Longitude—99 degrees, 16 minutes, 14 seconds W. USGS Quadrangle: Altus.

### **Additional Components**

Devol: 7 percent

Grandfield: 3 percent

## **FraB—Frankirk loam, 1 to 3 percent slopes**

### **Map Unit Setting**

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 21 to 28 inches

*Mean annual air temperature:* 57 to 65 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### **Component Description**

#### **Frankirk**

*Composition:* 90 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous loamy alluvium

*Slope:* 1 to 3 percent

## Soil Survey of Greer County, Oklahoma

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 9.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY056OK Loamy Prairie PE 32-44

*Typical profile:*

Ap—0 to 6 inches; loam

Bt1—6 to 18 inches; clay loam

Bt2—18 to 52 inches; clay loam

Bk—52 to 65 inches; loam

Ck—65 to 80 inches; loam

*Representative profile location:* Jackson County, Oklahoma; 250 feet south and 1,600 feet east of the northwest corner of Section 23, T.1 S., R.24 W. Latitude—34 degrees, 27 minutes, 50 seconds N; Longitude—99 degrees, 41 minutes, 07 seconds W. USGS Quadrangle: Eldorado.

### ***Additional Components***

Madge: 10 percent

## **FryB—Farry loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 82B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Long and narrow, 5 to 700 acres

### ***Component Description***

#### **Farry**

*Composition:* 92 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy and gravelly alluvium

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 10.4 inches

## Soil Survey of Greer County, Oklahoma

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R082BY056OK Loamy Prairie PE 38-48

*Typical profile:*

Ap—0 to 7 inches; loam

Bt1—7 to 11 inches; clay loam

Bt2—11 to 50 inches; clay loam

Bt3—50 to 63 inches; loam

Bck—63 to 75 inches; loam

C—75 to 84 inches; loam

*Representative profile location:* Greer County, Oklahoma; 1,400 feet north and 1,150 feet east of the southwest corner of Section 8, T.5 N., R.20 W. Latitude—34 degrees, 55 minutes, 05.3 seconds N; Longitude—99 degrees, 20 minutes, 21.2 seconds W. USGS Quadrangle: Lake Altus.

### ***Additional Components***

Lawton: 5 percent

Arnett: 3 percent

## **GdfB—Grandfield fine sandy loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Grandfield**

*Composition:* 80 percent

*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium and eolian deposits

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 7.9 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

A—0 to 15 inches; fine sandy loam

Bt1—15 to 32 inches; sandy clay loam

Bt2—32 to 49 inches; sandy clay loam

BC—49 to 56 inches; fine sandy loam

C—56 to 80 inches; fine sandy loam

*Representative profile location:* Jackson County, Oklahoma; 100 feet north and 500 feet west of the southeast corner of Section 31, T.3 N., R.18 W. Latitude—34 degrees, 40 minutes, 55 seconds N; Longitude—99 degrees, 07 minutes, 30 seconds W. USGS Quadrangle: Headrick.

***Additional Components***

Devol: 10 percent

Ozark: 10 percent

**GLGB—Grandmore and Grandfield loamy sands, 0 to 3 percent slopes**

***Map Unit Setting*** (fig. 9)

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 2,700 acres

***Component Description***

**Grandmore** (fig. 10)

*Composition:* 65 percent

*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium over clayey alluvium

*Slope:* 0 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Moderately well drained

*Available water capacity:* About 7.8 inches

*Depth to the top of the seasonal high water table:* 3.3 to 5.0 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44



**Figure 9.—Landscape of Alfalfa hay being grown on an area of Grandmore and Grandfield loamy sands, 0 to 3 percent slopes.**

*Typical profile:*

- A—0 to 18 inches; loamy sand
- Bt1—18 to 38 inches; sandy clay loam
- Bt2—38 to 46 inches; fine sandy loam
- 2Bt—46 to 61 inches; clay loam
- 2BC—61 to 80 inches; sandy clay loam

*Representative profile location:* Greer County, Oklahoma; 350 feet north and 1,600 feet west of the southeast corner of Section 8, T.7 N., R.21 W. Latitude—35 degrees, 5 minutes, 20.35 seconds N; Longitude—99 degrees, 26 minutes, 9.83 seconds W. USGS Quadrangle: Lake Creek.

**Grandfield**

*Composition:* 25 percent

*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium and eolian deposits

*Slope:* 0 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 7.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

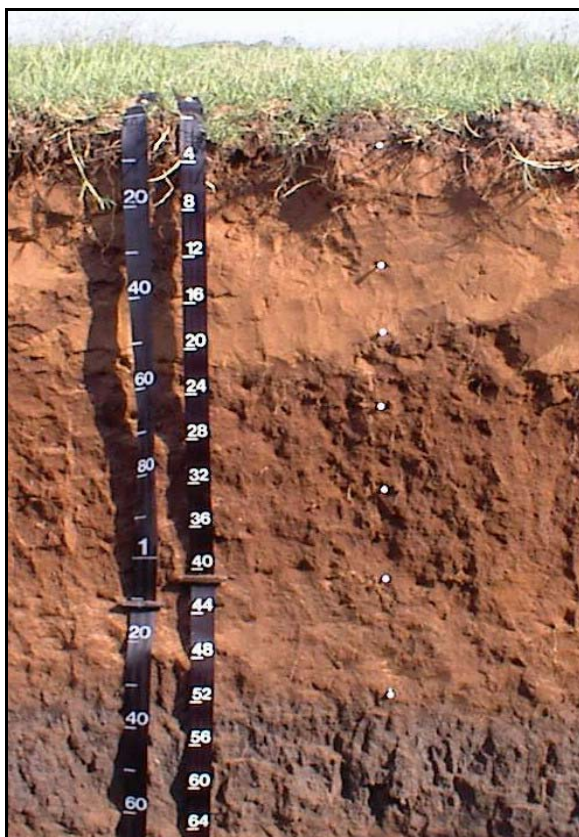


Figure 10.—Profile of Grandmore loamy sand, 0 to 3 percent. A lithologic discontinuity occurs at a depth of 52 inches. The scale on the left is in centimeters; scale on the right is in inches.

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

#### *Typical profile:*

- A—0 to 8 inches; loamy sand
- Bt1—8 to 28 inches; sandy clay loam
- Bt2—28 to 55 inches; sandy clay loam
- BC—55 to 75 inches; fine sandy loam
- C—75 to 80 inches; loamy sand

*Representative profile location:* Greer County, Oklahoma; 1,850 feet north and 1,600 feet west of the southeast corner of Section 8, T.7 N., R.21 W. Latitude—35 degrees, 5 minutes, 34.0 seconds N; Longitude—99 degrees, 26 minutes, 8.0 seconds W. USGS Quadrangle: Lake Creek.

### ***Additional Components***

Devol: 5 percent

Headrick: 5 percent

## **GlsB—Grandfield loamy sand, 0 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 500 acres

### ***Component Description***

#### **Grandfield**

*Composition:* 87 percent

*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium and eolian deposits

*Slope:* 0 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 7.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

#### ***Typical profile:***

A—0 to 7 inches; loamy sand

Bt1—7 to 21 inches; sandy clay loam

Bt2—21 to 44 inches; fine sandy loam

BC—44 to 72 inches; fine sandy loam

C—72 to 80 inches; loamy sand

*Representative profile location:* Greer County, Oklahoma; 2,000 feet south and 120 feet west of the northeast corner of Section 23, T.5 N., R.22 W. Latitude—34 degrees, 53 minutes, 40 seconds N; Longitude—99 degrees, 29 minutes, 07 seconds W. USGS Quadrangle: Granite.

### ***Additional Components***

Devol: 10 percent

Ozark: 3 percent

## **GlsD—Grandfield loamy sand, 3 to 8 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

## Soil Survey of Greer County, Oklahoma

*Mean annual precipitation:* 22 to 30 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 185 to 230 days  
*Shape and configuration:* Irregular, 5 to 200 acres

### **Component Description**

#### **Grandfield**

*Composition:* 87 percent  
*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain  
*Position on landform:* Riser  
*Parent material:* Loamy alluvium and eolian deposits  
*Slope:* 3 to 8 percent  
*Runoff:* Medium  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Well drained  
*Available water capacity:* About 7.0 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 4e  
*Land capability irrigated:* 4e  
*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

#### *Typical profile:*

A—0 to 13 inches; loamy sand  
Bt1—13 to 34 inches; sandy clay loam  
Bt2—34 to 47 inches; fine sandy loam  
BC—47 to 58 inches; fine sandy loam  
C—58 to 80 inches; loamy sand

*Representative profile location:* Greer County, Oklahoma; 1,050 feet north and 900 feet east of the southwest corner of Section 15, T.4 N., R.24 W. Latitude—34 degrees, 43 minutes, 02 seconds N; Longitude—99 degrees, 48 minutes, 54 seconds W. USGS Quadrangle: Russell.

### **Additional Components**

Devol: 8 percent  
Mcknight: 3 percent  
Heatly: 2 percent

## **GmuA—Gracemont fine sandy loam, saline, 0 to 1 percent slopes, occasionally flooded**

### **Map Unit Setting**

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 38 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 185 to 230 days  
*Shape and configuration:* Irregular, 10 to 250 acres



### ***Component Description***

#### **Gracemont**

*Composition:* 90 percent

*Geomorphic setting:* Flood plain on valley

*Parent material:* Calcareous sandy and loamy alluvium

*Slope:* 0 to 1 percent

*Runoff:* High

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Somewhat poorly drained

*Available water capacity:* About 6.3 inches

*Depth to the top of the seasonal high water table:* 0.5 to 1.5 feet

*Flooding:* Occasional

*Ponding:* None

*Salt affected:* Saline within 30 inches

### ***Interpretive Groups***

*Land capability nonirrigated:* 4w

*Ecological site number and name:* R078CY097OK Subirrigated (saline) PE 32-44

*Typical profile:*

A—0 to 6 inches; fine sandy loam

C1—6 to 20 inches; loam

C2—20 to 80 inches; sandy loam

*Representative profile location:* Jackson County, Oklahoma; 1,400 feet north and 2,300 feet west of the southeast corner of Section 33, T.3 N., R.21 W. Latitude—34 degrees, 41 minutes, 06 seconds N; Longitude—99 degrees, 24 minutes, 36 seconds W. USGS Quadrangle: Martha.

### ***Additional Components***

Lincoln: 5 percent

Westola: 5 percent

## **GmwA—Gracemont fine sandy loam, saline, 0 to 1 percent slopes, frequently flooded**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 38 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 30 to 600 acres

### ***Component Description***

#### **Gracemont**

*Composition:* 89 percent

*Geomorphic setting:* Flood plain on valley

*Parent material:* Calcareous sandy and loamy alluvium

*Slope:* 0 to 1 percent

*Runoff:* High

## Soil Survey of Greer County, Oklahoma

*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Somewhat poorly drained  
*Available water capacity:* About 7.5 inches  
*Depth to the top of the seasonal high water table:* 0.5 to 1.5 feet  
*Flooding:* Frequent  
*Ponding:* None  
*Salt affected:* Saline within 30 inches

### ***Interpretive Groups***

*Land capability nonirrigated:* 5w  
*Ecological site number and name:* R078CY097OK Subirrigated (saline) PE 32-44

#### *Typical profile:*

A—0 to 4 inches; fine sandy loam  
C1—4 to 35 inches; fine sandy loam  
C2—35 to 80 inches; loamy sand

*Representative profile location:* Jackson County, Oklahoma; 1,200 feet south and 3,850 feet west of the northeast corner of Section 28, T.3 N., R.21 W. Latitude—34 degrees, 42 minutes, 37 seconds N; Longitude—99 degrees, 24 minutes, 58 seconds W. USGS Quadrangle: Martha.

### ***Additional Components***

Ezell: 8 percent  
Retrop: 3 percent

## **GrrA—Gracemore clay loam, saline, 0 to 1 percent slopes, occasionally flooded**

### ***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 38 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 185 to 230 days  
*Shape and configuration:* Long and narrow, 10 to 400 acres

### ***Component Description***

#### **Gracemore**

*Composition:* 90 percent  
*Geomorphic setting:* Backswamp on flood plain on valley  
*Parent material:* Calcareous sandy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* High  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Somewhat poorly drained  
*Available water capacity:* About 4.3 inches  
*Depth to the top of the seasonal high water table:* 0.5 to 3.5 feet  
*Flooding:* Occasional

## Soil Survey of Greer County, Oklahoma

*Ponding:* None

*Salt affected:* Saline within 30 inches

### ***Interpretive Groups***

*Land capability nonirrigated:* 4w

*Ecological site number and name:* R078CY097OK Subirrigated (saline) PE 32-44

*Typical profile:*

A—0 to 7 inches; clay loam

C1—7 to 17 inches; stratified loamy fine sand to fine sandy loam

C2—17 to 80 inches; sand

*Representative profile location:* Greer County, Oklahoma; 1,800 feet north and 700 feet east of the southwest corner of Section 12, T.4 N., R.22 W. Latitude—34 degrees, 49 minutes, 55 seconds N; Longitude—99 degrees, 28 minutes, 24 seconds W. USGS Quadrangle: Hester.

### ***Additional Components***

Ezell: 5 percent

Westola: 5 percent

## **GtbB—Gotebo loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 250 acres

### ***Component Description***

**Gotebo** (fig. 11)

*Composition:* 82 percent

*Geomorphic setting:* Knoll on upland

*Position on hillslope:* Shoulder

*Parent material:* Calcareous coarse-silty residuum weathered from sandstone and siltstone

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Densic bedrock at 20 to 40 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 4.1 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3s

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY057OK Loamy Prairie (calcareous) PE 32-44

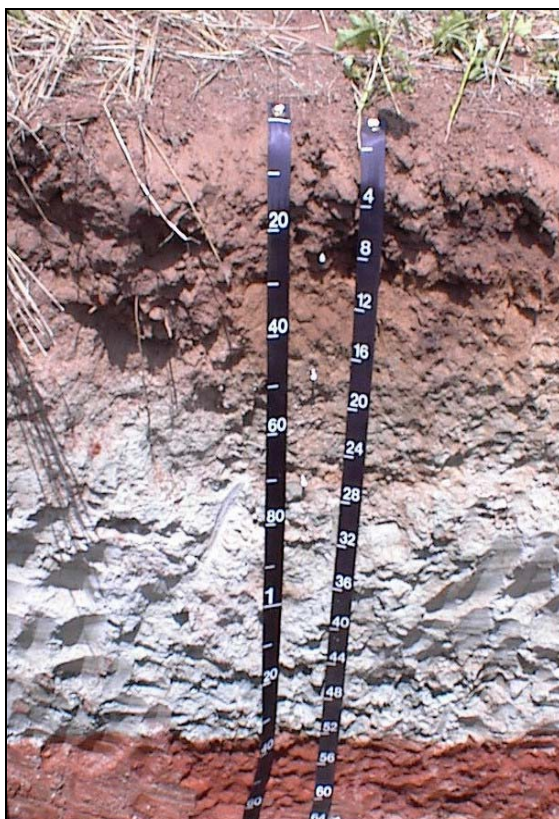


Figure 11.—Profile of Gotebo loam, 1 to 3 percent slopes. Shale and sandstone bedrock occur below a depth of 26 inches. The scale on the left is in centimeters; scale on the right is in inches.

*Typical profile:*

- Ap—0 to 8 inches; loam
- Bw—8 to 17 inches; loam
- B/Ck—17 to 26 inches; loam
- Cd—26 to 80 inches; loam

*Representative profile location:* Greer County, Oklahoma; 1,970 feet south and 850 feet west of the northeast corner of Section 17, T.6 N., R.22 W. Latitude—34 degrees, 59 minutes, 49 seconds N; Longitude—99 degrees, 32 minutes, 24 seconds W. USGS Quadrangle: Mangum North.

***Additional Components***

Spikebox: 13 percent  
Burford: 5 percent

**HdmB—Hardeman fine sandy loam, 1 to 3 percent slopes**

***Map Unit Setting***

MLRA: 78C  
Elevation: 1,000 to 2,000 feet

## Soil Survey of Greer County, Oklahoma

*Mean annual precipitation:* 20 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Irregular, 10 to 300 acres

### **Component Description**

#### **Hardeman**

*Composition:* 90 percent  
*Geomorphic setting:* Stream terrace on alluvial plain  
*Position on landform:* Tread  
*Parent material:* Coarse-loamy alluvium and eolian deposits  
*Slope:* 1 to 3 percent  
*Runoff:* Very low  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately rapid  
*Slowest permeability class within 80 inches:* Moderately rapid  
*Drainage class:* Well drained  
*Available water capacity:* About 7.7 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 3e  
*Land capability irrigated:* 2e  
*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

#### *Typical profile:*

A—0 to 6 inches; fine sandy loam  
Bw—6 to 46 inches; loam  
Bk—46 to 80 inches; fine sandy loam

*Representative profile location:* Jackson County, Oklahoma; 2,650 feet north and 1,500 feet west of the southeast corner of Section 31, T.3 N., R.18 W. Latitude—34 degrees, 41 minutes, 20 seconds N; Longitude—99 degrees, 07 minutes, 44 seconds W. USGS Quadrangle: Headrick.

### **Additional Components**

Farry: 7 percent  
Arnett: 3 percent

## **HdmC—Hardeman fine sandy loam, 3 to 5 percent slopes**

### **Map Unit Setting**

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 20 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 190 to 230 days  
*Shape and configuration:* Irregular, 5 to 100 acres

### ***Component Description***

#### **Hardeman**

*Composition:* 95 percent

*Geomorphic setting:* Stream terrace on alluvial plain

*Position on landform:* Riser

*Parent material:* Coarse-loamy alluvium and eolian deposits

*Slope:* 3 to 5 percent

*Runoff:* Very low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderately rapid

*Drainage class:* Well drained

*Available water capacity:* About 7.7 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

A—0 to 13 inches; fine sandy loam

Bw—13 to 35 inches; loam

Bk—35 to 62 inches; loam

BC—62 to 80 inches; fine sandy loam

*Representative profile location:* Jackson County, Oklahoma; 1,100 feet south and 1,800 feet west of the northeast corner of Section 31, T.3 N., R.18 W. Latitude—34 degrees, 41 minutes, 35 seconds N; Longitude—99 degrees, 07 minutes, 45 seconds W. USGS Quadrangle: Headrick.

### ***Additional Components***

Mcknight: 5 percent

## **HfkA—Hayfork silty clay loam, 0 to 1 percent slopes, rarely flooded**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 10 to 150 acres

### ***Component Description***

#### **Hayfork**

*Composition:* 83 percent

*Geomorphic setting:* Flood-plain step on flood plain on valley

*Parent material:* Calcareous clayey and loamy alluvium

## Soil Survey of Greer County, Oklahoma

*Slope:* 0 to 1 percent  
*Runoff:* Medium  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow  
*Slowest permeability class within 80 inches:* Very slow  
*Drainage class:* Well drained  
*Available water capacity:* About 9.6 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* Rare  
*Ponding:* None  
*Salt affected:* Saline within 30 inches

### ***Interpretive Groups***

*Land capability nonirrigated:* 1  
*Land capability irrigated:* 1  
*Ecological site number and name:* R078CY094TX Clayey Bottomland PE 31-44

#### *Typical profile:*

A—0 to 11 inches; silty clay loam  
Bk—11 to 27 inches; silty clay  
Bky1—27 to 41 inches; silty clay  
Bky2—41 to 50 inches; silty clay loam  
Cy—50 to 60 inches; silty clay loam

*Representative profile location:* Greer County, Oklahoma; 60 feet north and 1,340 feet east of the southwest corner of Section 5, T.7 N., R.23 W. Latitude—35 degrees, 06 minutes, 09 seconds N; Longitude—99 degrees, 39 minutes, 18 seconds W. USGS Quadrangle: Plainview.

### ***Additional Components***

Spur: 12 percent  
Duke: 5 percent

## **HksA—Headrick loamy sand, 0 to 1 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 30 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 185 to 230 days  
*Shape and configuration:* Irregular, 5 to 250 acres

### ***Component Description***

#### **Headrick**

*Composition:* 90 percent  
*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain  
*Position on landform:* Tread  
*Parent material:* Loamy alluvium over clayey alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderately slow

## Soil Survey of Greer County, Oklahoma

*Drainage class:* Somewhat poorly drained  
*Available water capacity:* About 8.5 inches  
*Depth to the top of the seasonal high water table:* 1.7 to 3.3 feet  
*Flooding:* None  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e  
*Land capability irrigated:* 3e  
*Ecological site number and name:* R078CY089OK Seep Meadow PE 32-44

### ***Typical profile:***

A—0 to 5 inches; loamy sand  
Bt—5 to 32 inches; sandy clay loam  
2Bt—32 to 66 inches; clay loam  
2BCK—66 to 80 inches; sandy clay loam

*Representative profile location:* Jackson County, Oklahoma; 2,400 feet north and 2,250 feet west of the southeast corner of Section 4, T.2 N., R.18 W. Latitude—34 degrees, 40 minutes, 25 seconds N; Longitude—99 degrees, 05 minutes, 44 seconds W. USGS Quadrangle: Long Mountain.

### ***Additional Components***

Grandfield: 7 percent  
Devol: 3 percent

## **HolA—Hollister silty clay loam, 0 to 1 percent slopes**

### ***Map Unit Setting*** (fig. 12)

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 23 to 30 inches  
*Mean annual air temperature:* 57 to 65 degrees F  
*Frost-free period:* 185 to 230 days  
*Shape and configuration:* Irregular, 20 to 2,000 acres

### ***Component Description***

#### **Hollister**

*Composition:* 91 percent  
*Geomorphic setting:* Paleoterrace on alluvial plain  
*Position on landform:* Tread  
*Parent material:* Calcareous clayey alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* High  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow  
*Slowest permeability class within 80 inches:* Very slow  
*Drainage class:* Well drained  
*Available water capacity:* About 9.1 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None





Figure 12.—Landscape of an area of Hollister silty clay loam, 0 to 1 percent slopes.

### ***Interpretive Groups***

*Land capability nonirrigated: 2s*

*Land capability irrigated: 2s*

*Ecological site number and name: R078CY096TX Clay Loam PE 31-44*

*Typical profile:*

Ap—0 to 9 inches; silty clay loam

Bw—9 to 23 inches; silty clay

Bss—23 to 72 inches; silty clay

Bk—72 to 110 inches; clay

2C—110 to 138 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 540 feet north and 2,470 feet east of the southwest corner of Section 30, T.1 N., R.21 W. Latitude—34 degrees, 31 minutes, 23 seconds N; Longitude—99 degrees, 26 minutes, 55 seconds W. USGS Quadrangle: Olustee.

### ***Additional Components***

Tillman: 9 percent

## **HrAC—Harmon-Aspermont complex, 1 to 5 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 5 to 100 acres

### **Component Description**

#### **Harmon**

*Composition:* 50 percent

*Geomorphic setting:* Hillslope on hill on karst

*Position on hillslope:* Backslope

*Parent material:* Calcareous residuum weathered from dolomite over shale and siltstone

*Slope:* 1 to 5 percent

*Runoff:* Very high

*Depth:* Paralithic bedrock at 6 to 18 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 4s

*Land capability irrigated:* 4s

*Ecological site number and name:* R078BY091TX Very Shallow PE 25-36

*Typical profile:*

Ap—0 to 7 inches; gravelly silt loam

ACk—7 to 16 inches; very gravelly silt loam

Cr—16 to 40 inches; bedrock

*Representative profile location:* Jackson County, Oklahoma; 550 feet north and 1,350 feet east of the southwest corner of Section 22, T.2 N., R.23 W. Latitude—34 degrees, 37 minutes, 28 seconds N; Longitude—99 degrees, 36 minutes, 34 seconds W. USGS Quadrangle: Prairie Hill.

#### **Aspermont**

*Composition:* 44 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Side slope

*Parent material:* Fine-silty colluvium over silty and clayey residuum weathered from shale and siltstone

*Slope:* 1 to 5 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderately slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 9.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078BY079TX Loamy PE 25-36

*Typical profile:*

Ap—0 to 5 inches; silt loam  
Bk—5 to 40 inches; silty clay loam  
BCk—40 to 50 inches; silty clay loam  
Cd—50 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 280 feet north and 1,300 feet east of the southwest corner of Section 22, T.2 N., R.23 W. Latitude—34 degrees, 37 minutes, 27 seconds N; Longitude—99 degrees, 36 minutes, 34 seconds W. USGS Quadrangle: Prairie Hill.

***Additional Components***

Knoco: 3 percent  
La Casa: 3 percent

**HSAF—Hardeman-Southside-Arnett complex, 3 to 20 percent slopes**

***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 20 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 190 to 230 days  
*Shape and configuration:* Irregular, 5 to 600 acres  
*Note:* Areas of this map unit have been mined for gravel that was used for roadbed material.

***Component Description***

**Hardeman**

*Composition:* 50 percent  
*Geomorphic setting:* Stream terrace on valley  
*Position on landform:* Riser  
*Parent material:* Coarse-loamy alluvium and eolian deposits  
*Slope:* 3 to 15 percent  
*Runoff:* Low  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately rapid  
*Slowest permeability class within 80 inches:* Moderately rapid  
*Drainage class:* Well drained  
*Available water capacity:* About 7.2 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 6e  
*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

A—0 to 14 inches; fine sandy loam  
Bw—14 to 20 inches; fine sandy loam

## Soil Survey of Greer County, Oklahoma

Bk—20 to 46 inches; fine sandy loam

BCK—46 to 80 inches; loamy sand

*Representative profile location:* Greer County, OK; 2,250 feet north and 1,500 feet west of the southeast corner of Section 11, T.5 N., R.22 W. Latitude—34 degrees, 55 minutes, 15 seconds N; Longitude—99 degrees, 29 minutes, 23 seconds W. USGS Quadrangle: Granite.

### **Southside**

*Composition:* 27 percent

*Geomorphic setting:* Stream terrace on valley

*Position on landform:* Riser

*Parent material:* Sandy and gravelly alluvium

*Slope:* 3 to 15 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderately rapid

*Drainage class:* Excessively drained

*Available water capacity:* About 3.1 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078CY107TX Sand Hills PE 31-44

*Typical profile:*

A—0 to 6 inches; sandy loam

C1—6 to 28 inches; gravelly loamy sand

C2—28 to 80 inches; sand

*Representative profile location:* Greer County, OK; 2,325 feet north and 1,900 feet west of the southeast corner of Section 11, T.5 N., R.22 W. Latitude—34 degrees, 55 minutes, 15 seconds N; Longitude—99 degrees, 29 minutes, 27 seconds W. USGS Quadrangle: Granite.

### **Arnett**

*Composition:* 20 percent

*Geomorphic setting:* Stream terrace on valley

*Position on landform:* Riser

*Parent material:* Loamy alluvium over gravelly alluvium

*Slope:* 3 to 12 percent

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 7.7 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

A—0 to 6 inches; sandy loam

Bt—6 to 21 inches; sandy clay loam

2Bt—21 to 30 inches; gravelly sandy clay loam

2BC—30 to 45 inches; gravelly coarse sandy loam

2C—45 to 80 inches; stratified loamy coarse sand to gravelly clay loam

*Representative profile location:* Greer County, Oklahoma; 2,300 feet north and 1,825 feet west of the southeast corner of Section 11, T.5 N., R.22 W. Latitude—34 degrees, 55 minutes, 15 seconds N; Longitude—99 degrees, 29 minutes, 26 seconds W. USGS Quadrangle: Granite.

***Additional Components***

Westola: 3 percent

**JesC—Jester fine sand, 1 to 5 percent slopes**

***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

***Component Description***

**Jester**

*Composition:* 87 percent

*Geomorphic setting:* Dune on flood plain on valley

*Parent material:* Calcareous eolian sands

*Slope:* 1 to 5 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Rapid

*Slowest permeability class within 80 inches:* Rapid

*Drainage class:* Excessively drained

*Available water capacity:* About 3.1 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 4e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY107TX Sand Hills PE 31-44

*Typical profile:*

A—0 to 7 inches; fine sand

C1—7 to 45 inches; fine sand

C2—45 to 80 inches; sand

*Representative profile location:* Jackson County, Oklahoma; 900 feet south and 1,800 feet west of the northeast corner of Section 3, T.4 N., R.19 W. Latitude—34 degrees, 51 minutes, 13 seconds N; Longitude—99 degrees, 11 minutes, 18 seconds W. USGS Quadrangle: Warren.

***Additional Components***

Lincoln: 13 percent

**KcRG—Knoco soils and Rock outcrop, 12 to 40 percent slopes**

***Map Unit Setting*** (fig. 13)

*MLRA:* 78B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 5 to 2,300 acres

***Component Description***

**Knoco**

*Composition:* 45 percent

*Geomorphic setting:* Scarp on escarpment on upland

*Position on landform:* Side slope

*Parent material:* Calcareous clayey residuum weathered from shale

*Slope:* 12 to 40 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 3 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 0.8 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 7e

*Ecological site number and name:* R078BY692TX Rocky Hill PE 25-36

***Typical profile:***

A—0 to 3 inches; silty clay

C—3 to 9 inches; silty clay

Cd—9 to 60 inches; clay

*Representative profile location:* Greer County, Oklahoma; 1,100 feet south and 150 feet west of the northeast corner of Section 15, T.4 N., R.22 W. Latitude—34 degrees, 49 minutes, 26 seconds N; Longitude—99 degrees, 29 minutes, 37 seconds W. USGS Quadrangle: Hester.

**Rock outcrop**

*Composition:* 20 percent

*Geomorphic setting:* Escarpment on upland

*Position on landform:* Side slope



**Figure 13.—Landscape of Knoco soils and Rock outcrop, 12 to 40 percent slopes.**

*Parent material:* Dolomite and gypsum

*Slope:* 12 to 40 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Impermeable

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

#### ***Interpretive Groups***

*Land capability nonirrigated:* 8s

*Typical profile:*

R—0 to 60 inches; bedrock

*Representative profile location:* Greer County, Oklahoma; 1,100 feet south and 350 feet west of the northeast corner of Section 15, T.4 N., R.22 W. Latitude—34 degrees, 49 minutes, 26 seconds N; Longitude—99 degrees, 29 minutes, 39 seconds W. USGS Quadrangle: Hester.

#### ***Additional Components***

Vernon: 12 percent

Badland: 10 percent

Talpa: 8 percent

Cottonwood: 5 percent

### **KoBE—Knoco-Badland complex, 1 to 12 percent slopes**

#### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

## Soil Survey of Greer County, Oklahoma

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

### **Component Description**

#### **Knoco**

*Composition:* 45 percent

*Geomorphic setting:* Rock pediment on upland

*Position on hillslope:* Backslope

*Parent material:* Calcareous clayey residuum weathered from shale

*Slope:* 1 to 12 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 3 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078BY092TX Very Shallow Clay PE 25-36

#### *Typical profile:*

A—0 to 6 inches; silty clay

C—6 to 16 inches; clay

Cd—16 to 60 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 1,300 feet north and 500 feet west of the southeast corner of Section 21, T.1 S., R.22 W. Latitude—34 degrees, 27 minutes, 12 seconds N; Longitude—99 degrees, 30 minutes, 08 seconds W. USGS Quadrangle: Quanah NE.

#### **Badland**

*Composition:* 30 percent

*Geomorphic setting:* Rock pediment on upland

*Position on landform:* Side slope

*Parent material:* Clayey residuum weathered from clayey shale

*Slope:* 1 to 12 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 0.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

*Salt affected:* Saline within 30 inches

### **Interpretive Groups**

*Land capability nonirrigated:* 8

#### *Typical profile:*

Cd—0 to 60 inches; bedrock



*Representative profile location:* Jackson County, Oklahoma; 1,650 feet north and 800 feet west of the southeast corner of Section 21, T.1 S., R.22 W. Latitude—34 degrees, 27 minutes, 16 seconds N; Longitude—99 degrees, 30 minutes, 08 seconds W. USGS Quadrangle: Quanah NE.

***Additional Components***

Vernon: 10 percent  
Beckman: 5 percent  
Rock outcrop: 5 percent  
Treadway: 5 percent

**KRCF—Knoco, Rock outcrop, and Cottonwood soils, 2 to 20 percent slopes**

***Map Unit Setting***

*MLRA:* 78B  
*Elevation:* 1,400 to 2,000 feet  
*Mean annual precipitation:* 20 to 30 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Irregular, 5 to 1,000 acres

***Component Description***

**Knoco**

*Composition:* 33 percent  
*Geomorphic setting:* Hillslope on hill on upland  
*Position on hillslope:* Backslope  
*Parent material:* Residuum weathered from clayey shale  
*Slope:* 2 to 20 percent  
*Runoff:* Very high  
*Depth:* Densic bedrock at 3 to 20 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow  
*Slowest permeability class within 80 inches:* Impermeable  
*Drainage class:* Well drained  
*Available water capacity:* About 0.9 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 6e  
*Ecological site number and name:* R078BY092TX Very Shallow Clay PE 25-36

***Typical profile:***

A—0 to 3 inches; silty clay  
C—3 to 12 inches; silty clay  
Cd—12 to 60 inches; clay

*Representative profile location:* Greer County, OK; 600 feet south and 1,450 feet east of the northwest corner of Section 31, T.5 N., R.22 W. Latitude—34 degrees, 52 minutes, 10.5 seconds N; Longitude—99 degrees, 34 minutes, 03.5 seconds W. NAD27. USGS Quadrangle: Mangum South, OK.

**Rock outcrop**

*Composition:* 21 percent

*Geomorphic setting:* Hill on upland

*Position on landform:* Side slope

*Parent material:* Gypsum and dolomite

*Slope:* 2 to 20 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Very slow

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 8s

*Typical profile:*

R—0 to 60 inches; bedrock

*Representative profile location:* Greer County, OK; 800 feet south and 1,200 feet east of the northwest corner of Section 31, T.5 N., R.22 W. Latitude—34 degrees, 52 minutes, 08.75 seconds N; Longitude—99 degrees, 34 minutes, 06.5 seconds W. NAD27. USGS Quadrangle: Mangum South, OK.

**Cottonwood**

*Composition:* 17 percent

*Geomorphic setting:* Hillslope on hill on karst

*Position on hillslope:* Backslope

*Parent material:* Residuum weathered from gypsum

*Slope:* 2 to 12 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 3 to 14 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Very slow

*Drainage class:* Well drained

*Available water capacity:* About 0.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 7s

*Ecological site number and name:* R078BY076TX Gyp PE 25-36

*Typical profile:*

A—0 to 4 inches; silt loam

R—4 to 40 inches; bedrock

*Representative profile location:* Greer County, OK; 1,250 feet south and 600 feet east of the northwest corner of Section 31, T.5 N., R.22 W. Latitude—34 degrees, 52 minutes, 04 seconds N; Longitude—99 degrees, 34 minutes, 14 seconds W. NAD27. USGS Quadrangle: Mangum South, OK.

***Additional Components***

Aspermont: 10 percent

Vernon: 9 percent

La Casa: 5 percent

Talpa: 5 percent

## **LacB—La Casa silty clay loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 26 inches

*Mean annual air temperature:* 59 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **La Casa**

*Composition:* 79 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Base slope

*Parent material:* Calcareous silty and clayey alluvium and colluvium over silty and clayey residuum weathered from shale and siltstone

*Slope:* 1 to 3 percent

*Runoff:* High

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Slow

*Drainage class:* Well drained

*Available water capacity:* About 8.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078BY072TX Clay Loam PE 25-36

#### ***Typical profile:***

Ap—0 to 6 inches; silty clay loam

Bt—6 to 12 inches; silty clay loam

Btk1—12 to 34 inches; silty clay

Btk2—34 to 64 inches; silty clay loam

BCk—64 to 81 inches; silty clay loam

C—81 to 91 inches; silty clay loam

*Representative profile location:* Jackson County, Oklahoma; 400 feet north and 500 feet east of the southwest corner of Section 22, T.2 N., R.23 W. Latitude—34 degrees, 36 minutes, 27 seconds N; Longitude—99 degrees, 36 minutes, 47 seconds W. USGS Quadrangle: Prairie Hill.

### ***Additional Components***

Nipsum: 11 percent

Aspermont: 7 percent

Harmon: 3 percent

## **LnuA—Lincoln loamy sand, 0 to 1 percent slopes, occasionally flooded**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 38 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 10 to 250 acres

### ***Component Description***

#### **Lincoln**

*Composition:* 90 percent

*Geomorphic setting:* Flood plain on valley

*Parent material:* Calcareous sandy alluvium

*Slope:* 0 to 1 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Rapid

*Slowest permeability class within 80 inches:* Rapid

*Drainage class:* Somewhat excessively drained

*Available water capacity:* About 3.2 inches

*Depth to the top of the seasonal high water table:* 5.0 to 6.7 feet

*Flooding:* Occasional

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY068OK Sandy Bottomland PE 32-44

#### ***Typical profile:***

A—0 to 8 inches; loamy sand

C1—8 to 21 inches; fine sand

C2—21 to 80 inches; stratified sand to loam

*Representative profile location:* Jackson County, Oklahoma; 1,400 feet south and 800 feet west of the northeast corner of Section 3, T.4 N., R.19 W. Latitude—34 degrees, 51 minutes, 08 seconds N; Longitude—99 degrees, 10 minutes, 45 seconds W. USGS Quadrangle: Warren.

### ***Additional Components***

Gracemore: 5 percent

Westola: 5 percent

## **LnWA—Lincoln and Westola Soils, 0 to 1 percent slopes, frequently flooded**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

## Soil Survey of Greer County, Oklahoma

*Mean annual precipitation:* 22 to 38 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 185 to 230 days  
*Shape and configuration:* Irregular, 30 to 600 acres

### **Component Description**

#### **Lincoln**

*Composition:* 65 percent  
*Geomorphic setting:* Flood plain on valley  
*Parent material:* Calcareous sandy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Rapid  
*Slowest permeability class within 80 inches:* Rapid  
*Drainage class:* Somewhat excessively drained  
*Available water capacity:* About 3.1 inches  
*Depth to the top of the seasonal high water table:* 5.0 to 6.7 feet  
*Flooding:* Frequent  
*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 5w  
*Ecological site number and name:* R078CY068OK Sandy Bottomland PE 32-44

#### *Typical profile:*

- A—0 to 5 inches; loamy sand
- C1—5 to 15 inches; loamy sand
- C2—15 to 80 inches; stratified sand to loam

*Representative profile location:* Jackson County, Oklahoma; 200 feet north and 200 feet west of the southeast corner of Section 34, T.5 N., R.19 W. Latitude—34 degrees, 51 minutes, 24 seconds N; Longitude—99 degrees, 11 minutes, 05 seconds W. USGS Quadrangle: Warren.

#### **Westola**

*Composition:* 22 percent  
*Geomorphic setting:* Flood plain on valley  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderately rapid  
*Slowest permeability class within 80 inches:* Moderately rapid  
*Drainage class:* Well drained  
*Available water capacity:* About 8.2 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* Frequent  
*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 5w  
*Ecological site number and name:* R078CY050OK Loamy Bottomland PE 32-44

*Typical profile:*

- A—0 to 5 inches; fine sandy loam
- C1—5 to 30 inches; fine sandy loam
- C2—30 to 80 inches; stratified sand to sandy loam

*Representative profile location:* Jackson County, Oklahoma; 1,000 feet north and 2,400 feet east of the southwest corner of Section 10, T.1 N., R.21 W. Latitude—34 degrees, 34 minutes, 04 seconds N; Longitude—99 degrees, 23 minutes, 44 seconds W. USGS Quadrangle: Olustee.

***Additional Components***

Gracemont: 5 percent  
Gracemore: 5 percent  
Jester: 3 percent

**LwtA—Lawton loam, 0 to 1 percent slopes**

***Map Unit Setting***

*MLRA:* 82B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 15 to 1,000 acres

*Note:* The Lawton component of this map unit has a mollic epipedon more than 20 inches thick, which is more than is allowed for the series, but, use and management is not affected by this difference.

***Component Description***

**Lawton**

*Composition:* 87 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium over granitic outwash and loamy alluvium

*Slope:* 0 to 1 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 9.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R082BY056OK Loamy Prairie PE 38-48

*Typical profile:*

- A—0 to 6 inches; loam
- BA—6 to 9 inches; clay loam

## Soil Survey of Greer County, Oklahoma

Bt1—9 to 34 inches; clay loam  
Bt2—34 to 75 inches; gravelly clay loam  
BC—75 to 80 inches; gravelly clay loam

*Representative profile location:* Greer County, Oklahoma; 1,900 feet south and 300 feet east of the northwest corner of Section 34, T.6 N., R.21 W. Latitude—34 degrees, 57 minutes, 09 seconds N; Longitude—99 degrees, 24 minutes, 46 seconds W. USGS Quadrangle: Granite.

### ***Additional Components***

Tipton: 13 percent

## **LwtB—Lawton loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 82B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 5 to 750 acres

*Note:* The Lawton component of this map unit has a mollic epipedon more than 20 inches thick, which is more than is allowed for the series, but, use and management is not affected by this difference.

### ***Component Description***

#### **Lawton**

*Composition:* 87 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium over granitic outwash and loamy alluvium

*Slope:* 1 to 3 percent

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 9.9 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R082BY056OK Loamy Prairie PE 38-48

#### ***Typical profile:***

A—0 to 6 inches; loam  
Bt1—6 to 28 inches; clay loam  
Bt2—28 to 56 inches; clay loam  
Bt3—56 to 75 inches; gravelly clay loam  
BC—75 to 80 inches; gravelly clay loam

## Soil Survey of Greer County, Oklahoma

*Representative profile location:* Greer County, Oklahoma; 2,325 feet south and 2,000 feet east of the northwest corner of Section 3, T.5 N., R.21 W. Latitude—34 degrees, 56 minutes, 13 seconds N; Longitude—99 degrees, 24 minutes, 25 seconds W. USGS Quadrangle: Granite.

### ***Additional Components***

Farry: 13 percent

## **LwtC2—Lawton loam, 3 to 5 percent slopes, eroded**

### ***Map Unit Setting***

*MLRA:* 82B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 15 to 350 acres

*Note:* This map unit has sustained moderate erosion because of cultivation. The forage production and species composition of native grasses that have been reseeded can vary widely from site to site. This is because of the degree of erosion and seed source of grasses that have been planted. For information about the original native vegetation, refer to the range site data for the map unit.

### ***Component Description***

#### **Lawton**

*Composition:* 77 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Riser

*Parent material:* Loamy alluvium over granitic outwash and loamy alluvium

*Slope:* 3 to 5 percent

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 9.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R082BY856OK Eroded Loamy Prairie PE 38-48

*Typical profile:*

A—0 to 5 inches; loam

Bt1—5 to 45 inches; clay loam

Bt2—45 to 62 inches; clay loam

BC—62 to 80 inches; gravelly loam

*Representative profile location:* Greer County, Oklahoma; 2,200 feet south and 2,000 feet west of the northeast corner of Section 15, T.6 N., R.21 W. Latitude—34



degrees, 59 minutes, 44 seconds N; Longitude—99 degrees, 24 minutes, 08 seconds W. USGS Quadrangle: Granite.

***Additional Components***

Farry: 13 percent

Arnett: 10 percent

**M-W—Miscellaneous Water**

This map unit consists of areas of waste water. Examples include sewage lagoons and impoundments for industrial waste water.

**MagB—Madge loam, 1 to 3 percent slopes**

***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 750 acres

***Component Description***

**Madge**

*Composition:* 90 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 9.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY056OK Loamy Prairie PE 32-44

***Typical profile:***

Ap—0 to 13 inches; loam

Bt1—13 to 25 inches; clay loam

Bt2—25 to 41 inches; sandy clay loam

BC—41 to 57 inches; loam

C—57 to 80 inches; fine sandy loam

*Representative profile location:* Harmon County, Oklahoma; 200 feet north and 2,400 feet east of the southwest corner of Section 19, T.5 N., R.25 W. Latitude—34

## Soil Survey of Greer County, Oklahoma

degrees, 53 minutes, 11.5 seconds N; Longitude—99 degrees, 52 minutes, 47.5 seconds W. NAD 1927. USGS Quadrangle: Madge, OK.

### ***Additional Components***

Dodson: 5 percent  
Shrewder: 5 percent

## **MdgB—Madge fine sandy loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

MLRA: 78C  
Elevation: 1,000 to 2,000 feet  
Mean annual precipitation: 20 to 28 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 180 to 230 days  
Shape and configuration: Irregular, 5 to 500 acres

### ***Component Description***

#### **Madge**

Composition: 90 percent  
Geomorphic setting: Stream terrace on alluvial plain  
Position on landform: Tread  
Parent material: Loamy alluvium  
Slope: 1 to 3 percent  
Runoff: Low  
Depth: Greater than 60 inches  
Slowest permeability class of the soil to 60 inches or above a restrictive layer: Moderate  
Slowest permeability class within 80 inches: Moderate  
Drainage class: Well drained  
Available water capacity: About 9.0 inches  
Depth to the top of the seasonal high water table: Greater than 6 feet  
Flooding: None  
Ponding: None

### ***Interpretive Groups***

Land capability nonirrigated: 2e  
Land capability irrigated: 2e  
Ecological site number and name: R078CY056OK Loamy Prairie PE 32-44

#### ***Typical profile:***

Ap—0 to 5 inches; fine sandy loam  
Bt1—5 to 43 inches; sandy clay loam  
Bt2—43 to 49 inches; fine sandy loam  
BCk—49 to 56 inches; loamy sand  
C—56 to 80 inches; sand

Representative profile location: Greer County, Oklahoma; 1,800 feet north and 1,500 feet west of the southeast corner of Section 11, T.5 N., R.22 W. Latitude—34 degrees, 55 minutes, 10.4 seconds N; Longitude—99 degrees, 29 minutes, 22.6 seconds W; NAD83. USGS Quadrangle: Granite, OK.

***Additional Components***

Farry: 5 percent  
Tipton: 5 percent

**MknB—Mcknight fine sandy loam, 1 to 3 percent slopes**

***Map Unit Setting***

MLRA: 78C  
Elevation: 1,400 to 2,000 feet  
Mean annual precipitation: 20 to 30 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 185 to 230 days  
Shape and configuration: Irregular, 5 to 100 acres

***Component Description***

**Mcknight**

Composition: 87 percent  
Geomorphic setting: Sand sheet on stream terrace on alluvial plain  
Position on landform: Tread  
Parent material: Loamy alluvium over residuum weathered from sandstone and shale  
Slope: 1 to 3 percent  
Runoff: Medium  
Depth: Densic bedrock at 40 to 60 inches  
Slowest permeability class of the soil to 60 inches or above a restrictive layer: Slow  
Slowest permeability class within 80 inches: Impermeable  
Drainage class: Well drained  
Available water capacity: About 6.8 inches  
Depth to the top of the seasonal high water table: Greater than 6 feet  
Flooding: None  
Ponding: None

***Interpretive Groups***

Land capability nonirrigated: 3e  
Land capability irrigated: 2e  
Ecological site number and name: R078CY110TX Sandy Loam Prairie PE 31-44

***Typical profile:***

A—0 to 7 inches; fine sandy loam  
Bt—7 to 35 inches; sandy clay loam  
2Btk—35 to 53 inches; clay  
2Cd—53 to 80 inches; clay

***Representative profile location:*** Harmon County, Oklahoma; 800 feet north and 1,900 feet west of the southeast corner of Section 30, T.3 N., R.26 W. Latitude—34 degrees, 41 minutes, 54 seconds N; Longitude—99 degrees, 58 minutes, 15 seconds W. (NAD 27) USGS Quadrangle: Hollis.

***Additional Components***

Devol: 5 percent  
Grandfield: 5 percent  
Aspermont: 3 percent

## **MktB—Mcknight loamy fine sand, 0 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 350 acres

### ***Component Description***

#### **Mcknight**

*Composition:* 85 percent

*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Loamy alluvium over residuum weathered from sandstone and shale

*Slope:* 0 to 3 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 6.1 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

#### ***Typical profile:***

A—0 to 14 inches; loamy fine sand

Bt—14 to 29 inches; sandy clay loam

2Bt—29 to 36 inches; silty clay

2CBk—36 to 52 inches; clay

2Cd—52 to 80 inches; clay

*Representative profile location:* Harmon County, Oklahoma; 1,800 feet south and 1,350 feet west of the northeast corner of Section 3, T.3 N., R.26 W. Latitude—34 degrees, 45 minutes, 48.80 seconds N; Longitude—99 degrees, 55 minutes, 0.65 seconds W. (NAD 83) USGS Quadrangle: McKnight.

### ***Additional Components***

Grandfield: 10 percent

Devol: 5 percent

## **MktC2—Mcknight loamy fine sand, 3 to 5 percent slopes, eroded**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 250 acres

*Note:* This map unit has sustained moderate erosion because of cultivation. The forage production and species composition of native grasses that have been reseeded can vary widely from site to site. This is because of the degree of erosion and seed source of grasses that have been planted. For information about the original native vegetation, refer to the range site data for the map unit.

### ***Component Description***

#### **Mcknight**

*Composition:* 75 percent

*Geomorphic setting:* Sand sheet on stream terrace on alluvial plain

*Position on landform:* Riser

*Parent material:* Loamy alluvium over residuum weathered from sandstone and shale

*Slope:* 3 to 5 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 6.3 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 4e

*Land capability irrigated:* 4e

*Ecological site number and name:* R078CY834OK Eroded Sandy Land PE 32-44

#### ***Typical profile:***

A—0 to 7 inches; loamy fine sand

Bt—7 to 35 inches; sandy clay loam

2BCK—35 to 51 inches; clay loam

2Cd—51 to 80 inches; clay

*Representative profile location:* Harmon County, Oklahoma; 1,500 feet north and 2,220 feet east of the southwest corner of Section 34, T.4 N., R.26 W. Latitude—34 degrees, 46 minutes, 22.2 seconds N; Longitude—99 degrees, 55 minutes, 19.8 seconds W. (NAD 27) USGS Quadrangle: McKnight.

***Additional Components***

Devol: 10 percent  
Grandfield: 10 percent  
Aspermont: 3 percent  
Knoco: 2 percent

**NpsB—Nipsum silty clay loam, 0 to 2 percent slopes**

***Map Unit Setting***

MLRA: 78B  
Elevation: 1,400 to 2,000 feet  
Mean annual precipitation: 20 to 30 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 200 to 230 days  
Shape and configuration: Irregular, 5 to 550 acres

***Component Description***

**Nipsum**

Composition: 82 percent  
Geomorphic setting: Escarpment on upland  
Position on landform: Base slope  
Parent material: Clayey alluvium and colluvium  
Slope: 0 to 2 percent  
Runoff: High  
Depth: Greater than 60 inches  
Slowest permeability class of the soil to 60 inches or above a restrictive layer: Slow  
Slowest permeability class within 80 inches: Slow  
Drainage class: Well drained  
Available water capacity: About 8.6 inches  
Depth to the top of the seasonal high water table: Greater than 6 feet  
Flooding: None  
Ponding: None

***Interpretive Groups***

Land capability nonirrigated: 2e  
Land capability irrigated: 2e  
Ecological site number and name: R078BY072TX Clay Loam PE 25-36

***Typical profile:***

A—0 to 20 inches; silty clay loam  
Bk1—20 to 27 inches; silty clay  
Bk2—27 to 40 inches; silty clay  
Bky—40 to 62 inches; silty clay  
BCky—62 to 80 inches; silty clay loam

***Representative profile location:*** Greer County, Oklahoma; 180 feet south and 300 feet west of the northeast corner of Section 17, T.7 N., R.23 W. Latitude—35 degrees, 05 minutes, 13 seconds N; Longitude—99 degrees, 38 minutes, 35 seconds W. USGS Quadrangle: Plainview.

***Additional Components***

Quanah: 13 percent  
Treadway: 5 percent

## **NstC—Nobscot sand, 2 to 5 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,400 to 2,200 feet

*Mean annual precipitation:* 20 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 10 to 800 acres

### ***Component Description***

**Nobscot** (fig. 14)

*Composition:* 85 percent

*Geomorphic setting:* Dune on sand sheet on stream terrace on alluvial plain

*Parent material:* Eolian sands over coarse-loamy eolian deposits

*Slope:* 2 to 5 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderately rapid

*Drainage class:* Well drained

*Available water capacity:* About 5.3 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 4e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY017OK Deep Sand Savannah (west) PE 32-44

*Typical profile:*

A—0 to 5 inches; sand

E—5 to 23 inches; sand

Bt1—23 to 53 inches; sandy loam

Bt2—53 to 71 inches; loamy sand

BC—71 to 80 inches; sand

*Representative profile location:* Beckham County, Oklahoma; 80 feet north and 600 feet east of the southwest corner of Section 35, T.9 N., R.23 W. Latitude— 35 degrees, 12 minutes, 17.48 seconds N; Longitude— 99 degrees, 36 minutes, 34.99 seconds W. USGS Quadrangle: Carter West.

### ***Additional Components***

Delwin: 7 percent

Grandfield: 5 percent

Eda: 3 percent



Figure 14.—Profile of Nobscot sand, 2 to 5 percent slopes. The surface layers are sand texture and are about 31 inches thick over the yellowish red sandy loam subsoils. The scale on the left is in inches; scale on the right is in centimeters.

## **OakA—Oakley loam, 0 to 1 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres



### ***Component Description***

#### **Oakley**

*Composition:* 80 percent

*Geomorphic setting:* Stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous loamy alluvium

*Slope:* 0 to 1 percent

*Runoff:* Low

*Depth:* Densic bedrock at 61 to 80 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 10.6 inches

*Depth to the top of the seasonal high water table:* 5.0 to 8.0 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY057OK Loamy Prairie (calcareous) PE 32-44

*Typical profile:*

Ap—0 to 12 inches; loam

Bk1—12 to 43 inches; loam

Bk2—43 to 58 inches; loam

BC—58 to 85 inches; sandy clay loam

C—85 to 95 inches; gravelly sandy loam

2Cd—95 to 120 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 450 feet north and 1,100 feet west of the southeast corner of Section 28, T.3 N., R.19 W. Latitude—34 degrees, 41 minutes, 51 seconds N; Longitude—99 degrees, 11 minutes, 51 seconds W. USGS Quadrangle: Headrick.

### ***Additional Components***

Roark: 10 percent

Ozark: 7 percent

Burford: 3 percent

## **OakB—Oakley loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Oakley**

*Composition:* 85 percent

## Soil Survey of Greer County, Oklahoma

*Geomorphic setting:* Stream terrace on alluvial plain  
*Position on landform:* Tread  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 1 to 3 percent  
*Runoff:* Medium  
*Depth:* Densic bedrock at 61 to 80 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately slow  
*Slowest permeability class within 80 inches:* Moderately slow  
*Drainage class:* Well drained  
*Available water capacity:* About 10.3 inches  
*Depth to the top of the seasonal high water table:* 5.0 to 8.0 feet  
*Flooding:* None  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e  
*Land capability irrigated:* 2e  
*Ecological site number and name:* R078CY057OK Loamy Prairie (calcareous) PE 32-44

#### *Typical profile:*

Ap—0 to 7 inches; loam  
Bk1—7 to 41 inches; loam  
Bk2—41 to 49 inches; clay loam  
BCk—49 to 72 inches; clay loam  
Ck—72 to 95 inches; loam  
2Cd—95 to 120 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 2,400 feet south and 1,150 feet east of the northwest corner of Section 25, T.1 S., R.24 W. Latitude—34 degrees, 26 minutes, 37 seconds N; Longitude—99 degrees, 40 minutes, 09 seconds W. USGS Quadrangle: Eldorado.

### ***Additional Components***

Burford: 5 percent  
Ozark: 5 percent  
Roark: 5 percent

## **OzkA—Ozark fine sandy loam, 0 to 1 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 28 inches  
*Mean annual air temperature:* 59 to 64 degrees F  
*Frost-free period:* 200 to 230 days  
*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Ozark**

*Composition:* 85 percent  
*Geomorphic setting:* Flat on sand sheet on stream terrace on alluvial plain  
*Position on landform:* Talf

## Soil Survey of Greer County, Oklahoma

*Parent material:* Loamy alluvium over silty and clayey residuum weathered from claystone

*Slope:* 0 to 1 percent

*Runoff:* Low

*Depth:* Densic bedrock at 61 to 80 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Moderately well drained

*Available water capacity:* About 8.5 inches

*Depth to the top of the seasonal high water table:* 3.5 to 5.0 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY110TX Sandy Loam Prairie PE 31-44

*Typical profile:*

Ap—0 to 11 inches; fine sandy loam

Bt—11 to 24 inches; sandy clay loam

Btk1—24 to 50 inches; clay loam

Btk2—50 to 59 inches; clay loam

BC—59 to 83 inches; sandy clay loam

2C—83 to 105 inches; clay loam

2Cd—105 to 120 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 500 feet north and 2,000 feet west of the southeast corner of Section 29, T.3 N., R.19 W. Latitude—34 degrees, 41 minutes, 50 seconds N; Longitude—99 degrees, 13 minutes, 03 seconds W. USGS Quadrangle: Headrick.

### ***Additional Components***

Altus: 5 percent

Headrick: 5 percent

Mcknight: 5 percent

## **PIT—Pits**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 2 to 100 acres

### ***Component Description***

#### **Pits**

*Composition:* 100 percent

*Geomorphic setting:* Gravel pit and Quarry

*Parent material:* Granite and gravelly alluvium

*Slope:* 0 to 90 percent

*Runoff:* Very high  
*Depth:* Paralithic bedrock at 0 to 3 inches  
*Slowest permeability class within 80 inches:* Impermeable  
*Drainage class:* Well drained  
*Available water capacity:* Not specified  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 8

*Typical profile:*

Cr—0 to 80 inches; bedrock

*Representative profile location:* Greer County, Oklahoma; 50 feet south and 3,000 feet east of the northwest corner of Section 17, T.5 N., R.20 W. Latitude—34 degrees, 54 minutes, 51 seconds N; Longitude—99 degrees, 19 minutes, 57 seconds W. USGS Quadrangle: Lake Altus.

**QhTC—Quanah-Talpa complex, 1 to 5 percent slopes**

***Map Unit Setting***

*MLRA:* 78B  
*Elevation:* 1,400 to 2,000 feet  
*Mean annual precipitation:* 20 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Irregular, 5 to 50 acres

***Component Description***

**Quanah**

*Composition:* 50 percent  
*Geomorphic setting:* Hillslope on hill on upland  
*Position on hillslope:* Toeslope  
*Parent material:* Calcareous loamy colluvium  
*Slope:* 1 to 5 percent  
*Runoff:* Low  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Well drained  
*Available water capacity:* About 8.8 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078BY079TX Loamy PE 25-36

*Typical profile:*

A—0 to 14 inches; silty clay loam

Bw—14 to 22 inches; silty clay loam

## Soil Survey of Greer County, Oklahoma

Bk1—22 to 36 inches; silty clay loam

Bk2—36 to 82 inches; silty clay loam

*Representative profile location:* Harmon County, Oklahoma; 100 feet north and 1,600 feet west of the southeast corner of Section 13, T.6 N., R.27 W. Latitude—34 degrees, 59 minutes, 16 seconds N; Longitude—99 degrees, 58 minutes, 59 seconds W. USGS Quadrangle: Madge.

### **Talpa**

*Composition:* 20 percent

*Geomorphic setting:* Hill on upland

*Position on landform:* Side slope

*Parent material:* Residuum weathered from limestone and dolomite

*Slope:* 1 to 5 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 4 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 7s

*Land capability irrigated:* 7s

*Ecological site number and name:* R078BY091TX Very Shallow PE 25-36

*Typical profile:*

A—0 to 10 inches; loam

R—10 to 20 inches; bedrock

*Representative profile location:* Harmon County, Oklahoma; 100 feet north and 1,500 feet west of the southeast corner of Section 13, T.6 N., R.27 W. Latitude—34 degrees, 59 minutes, 16 seconds N; Longitude—99 degrees, 58 minutes, 58 seconds W. USGS Quadrangle: Madge.

### ***Additional Components***

Aspermont: 10 percent

La Casa: 10 percent

Cottonwood: 5 percent

Rock outcrop: 5 percent

## **QnRG—Quinlan-Rock outcrop complex, 12 to 45 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,000 to 2,200 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 65 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Long and narrow, 5 to 200 acres

### ***Component Description***

#### **Quinlan**

*Composition:* 50 percent

*Geomorphic setting:* Escarpment on upland

*Position on landform:* Side slope

*Parent material:* Loamy residuum weathered from sandstone

*Slope:* 12 to 45 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 10 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 1.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 7e

*Ecological site number and name:* R078CY005OK Loamy Breaks PE 32-44

*Typical profile:*

A—0 to 5 inches; very fine sandy loam

Bk—5 to 11 inches; loam

Cd—11 to 40 inches; very fine sandy loam

*Representative profile location:* Harmon County, Oklahoma; 1,550 feet south and 400 feet east of the northwest corner of Section 7, T.5 N., R.26 W. Latitude—34 degrees, 55 minutes, 31 seconds N; Longitude—99 degrees, 51 minutes, 31 seconds W. USGS Quadrangle: Madge.

#### **Rock outcrop**

*Composition:* 25 percent

*Geomorphic setting:* Escarpment on upland

*Position on landform:* Side slope

*Parent material:* Sandstone

*Slope:* 12 to 45 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Moderately slow

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 8s

*Typical profile:*

Cd—0 to 62 inches; bedrock

*Representative profile location:* Harmon County, Oklahoma; 1,400 feet south and 400 feet east of the northwest corner of Section 7, T.5 N., R.26 W. Latitude—34 degrees, 55 minutes, 31 seconds N; Longitude—99 degrees, 51 minutes, 31 seconds W. USGS Quadrangle: Madge.

***Additional Components***

Deepwood: 10 percent  
Woodward: 10 percent  
Westola: 5 percent

**RakA—Roark loam, 0 to 1 percent slopes**

***Map Unit Setting***

MLRA: 78C  
Elevation: 1,000 to 2,000 feet  
Mean annual precipitation: 22 to 28 inches  
Mean annual air temperature: 60 to 64 degrees F  
Frost-free period: 200 to 230 days  
Shape and configuration: Irregular, 20 to 2,000 acres

***Component Description***

**Roark** (fig. 15)  
Composition: 85 percent  
Geomorphic setting: Stream terrace on alluvial plain



Figure 15.—Profile of Roark loam, 0 to 1 percent slopes. The dark mollic epipedon is about 27 inches thick. The scale on the left is in centimeters; the scale on the right is in inches.

## Soil Survey of Greer County, Oklahoma

*Position on landform:* Tread

*Parent material:* Calcareous loamy and clayey alluvium

*Slope:* 0 to 1 percent

*Runoff:* Medium

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Slow

*Drainage class:* Well drained

*Available water capacity:* About 10.1 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R078CY056OK Loamy Prairie PE 32-44

*Typical profile:*

Ap—0 to 10 inches; loam

Bt—10 to 24 inches; clay loam

Btk1—24 to 34 inches; clay loam

Btk2—34 to 49 inches; clay loam

Btk3—49 to 67 inches; loam

2C—67 to 80 inches; clay loam

*Representative profile location:* Jackson County, Oklahoma; 50 feet south and 1,600 feet west of the northeast corner of Section 14, T.3 N., R.21 W. Latitude—34 degrees, 44 minutes, 22 seconds N; Longitude—99 degrees, 22 minutes, 28 seconds W. USGS Quadrangle: Altus.

### ***Additional Components***

Tipton: 10 percent

Ozark: 5 percent

## **RKBG—Rock outcrop-Brico complex, 8 to 50 percent slopes**

### ***Map Unit Setting***

*MLRA:* 82B

*Elevation:* 1,000 to 2,490 feet

*Mean annual precipitation:* 27 to 33 inches

*Mean annual air temperature:* 58 to 61 degrees F

*Frost-free period:* 200 to 220 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

### ***Component Description***

#### **Rock outcrop**

*Composition:* 60 percent

*Geomorphic setting:* Mountain slope on mountains

*Position on landform:* Mountain flank

*Parent material:* Granite

*Slope:* 8 to 50 percent

*Runoff:* Very high



## Soil Survey of Greer County, Oklahoma

*Slowest permeability class within 80 inches:* Impermeable  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 8s

*Typical profile:*

R—0 to 60 inches; bedrock

*Representative profile location:* Kiowa County, Oklahoma; 1,500 feet south and 2,500 feet east of the northwest corner of Section 2, T.3 N., R.16 W. Latitude—34 degrees, 45 minutes, 52 seconds N; Longitude—98 degrees, 51 minutes, 06 seconds W. USGS Quadrangle: Cooperton, OK.

### **Brico**

*Composition:* 30 percent

*Geomorphic setting:* Mountain slope on mountains

*Position on landform:* Mountain flank

*Parent material:* Clayey colluvium derived from granite

*Slope:* 8 to 20 percent

*Runoff:* High

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 6.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R082BY004OK Boulder Ridge Savannah PE 38-48

*Typical profile:*

A—0 to 10 inches; cobbly loam

Bt—10 to 35 inches; very cobbly clay

BC—35 to 72 inches; extremely cobbly clay loam

*Representative profile location:* Kiowa County, Oklahoma; 2,400 feet north and 300 feet west of the southeast corner of Section 27, T.5 N., R.20 W. Latitude—34 degrees, 52 minutes, 39 seconds N; Longitude—99 degrees, 17 minutes, 26 seconds W. USGS Quadrangle: Lake Creek, OK.

### ***Additional Components***

Lawton: 10 percent

## **RKO—Rock outcrop, granite**

### ***Map Unit Setting***

*MLRA:* 82B

*Elevation:* 1,000 to 2,490 feet

*Mean annual precipitation:* 27 to 33 inches

## Soil Survey of Greer County, Oklahoma

*Mean annual air temperature:* 58 to 61 degrees F

*Frost-free period:* 200 to 220 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

### **Component Description**

#### **Rock outcrop**

*Composition:* 100 percent

*Geomorphic setting:* Mountain slope on mountains

*Position on landform:* Mountain flank

*Parent material:* Granite

*Slope:* 20 to 45 percent

*Runoff:* Very high

*Slowest permeability class within 80 inches:* Impermeable

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 8s

*Typical profile:*

R—0 to 60 inches; bedrock

*Representative profile location:* Kiowa County, Oklahoma; 900 feet south and 2,400 feet west of the northeast corner of Section 35, T.4 N., R.16 W. Latitude—34 degrees, 46 minutes, 51 seconds N; Longitude—98 degrees, 51 minutes, 05 seconds W. USGS Quadrangle: Cooperton.

## **RuuA—Rups silty clay loam, 0 to 1 percent slopes, occasionally flooded**

### **Map Unit Setting**

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 10 to 250 acres

### **Component Description**

#### **Rups**

*Composition:* 90 percent

*Geomorphic setting:* Flood plain on alluvial plain

*Parent material:* Saline silty and clayey alluvium

*Slope:* 0 to 1 percent

*Runoff:* Very high

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately slow

*Slowest permeability class within 80 inches:* Slow

*Drainage class:* Somewhat poorly drained

*Available water capacity:* About 6.8 inches

*Depth to the top of the seasonal high water table:* 1.5 to 3.5 feet

*Flooding:* Occasional

*Ponding:* None

*Salt affected:* Saline within 30 inches

#### ***Interpretive Groups***

*Land capability nonirrigated:* 4s

*Ecological site number and name:* R078CY046OK Clayey Saline Bottomland PE 32-44

*Typical profile:*

Ap—0 to 7 inches; silty clay loam

Bk—7 to 21 inches; silty clay loam

Bkz—21 to 43 inches; silty clay loam

Ckz—43 to 80 inches; silty clay loam

*Representative profile location:* Jackson County, Oklahoma; 325 feet south and 275 feet west of the northeast corner of Section 26, T.4 N., R.21 W. Latitude—34 degrees, 47 minutes, 50 seconds N; Longitude—99 degrees, 22 minutes, 16 seconds W. USGS Quadrangle: Blair.

#### ***Additional Components***

Spur: 7 percent

Beckman: 3 percent

### **RuwA—Rups silty clay loam, 0 to 1 percent slopes, frequently flooded**

#### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Long and narrow, 10 to 100 acres

#### ***Component Description***

##### **Rups**

*Composition:* 82 percent

*Geomorphic setting:* Flood plain on alluvial plain

*Parent material:* Saline silty and clayey alluvium

*Slope:* 0 to 1 percent

*Runoff:* Very high

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately slow

*Slowest permeability class within 80 inches:* Slow

*Drainage class:* Somewhat poorly drained

*Available water capacity:* About 7.1 inches

*Depth to the top of the seasonal high water table:* 1.5 to 3.5 feet

*Flooding:* Frequent

*Ponding:* None

*Salt affected:* Saline within 30 inches

#### ***Interpretive Groups***

*Land capability nonirrigated:* 5w

*Ecological site number and name:* R078CY046OK Clayey Saline Bottomland PE 32-44

*Typical profile:*

A—0 to 15 inches; silty clay loam  
Bkz1—15 to 30 inches; clay loam  
Bkz2—30 to 48 inches; clay loam  
Ckz—48 to 80 inches; stratified silty clay loam to clay

*Representative profile location:* Jackson County, Oklahoma; 300 feet south and 2,450 feet east of the northwest corner of Section 14, T.1 N., R.20 W. Latitude—34 degrees, 33 minutes, 52 seconds N; Longitude—99 degrees, 16 minutes, 23 seconds W. USGS Quadrangle: Altus SE.

***Additional Components***

Spur: 10 percent  
Retrop: 5 percent  
Beckman: 3 percent

**SKRG—Spikebox-Knoco-Rock outcrop complex, 12 to 40 percent slopes**

***Map Unit Setting***

MLRA: 78C  
Elevation: 1,000 to 1,800 feet  
Mean annual precipitation: 22 to 30 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 185 to 230 days  
Shape and configuration: Irregular, 5 to 300 acres

***Component Description***

**Spikebox**

*Composition:* 40 percent  
*Geomorphic setting:* Escarpment on hill on upland  
*Position on landform:* Side slope  
*Parent material:* Loamy residuum weathered from sandstone and siltstone  
*Slope:* 12 to 40 percent  
*Runoff:* Very high  
*Depth:* Paralithic bedrock at 8 to 20 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderately slow  
*Drainage class:* Well drained  
*Available water capacity:* About 1.8 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 7e  
*Ecological site number and name:* R078CY005OK Loamy Breaks PE 32-44

*Typical profile:*

A—0 to 3 inches; loam  
BC—3 to 12 inches; loam  
Cr—12 to 40 inches; bedrock

## Soil Survey of Greer County, Oklahoma

*Representative profile location:* Greer County, OK; 1,500 feet north and 1,625 feet west of the southeast corner of Section 21, T.6 N., R.24 W. Latitude—34 degrees, 58 minutes, 38.5 seconds N; Longitude—99 degrees, 44 minutes, 10.0 seconds W. USGS Quadrangle: Reed.

### **Knoco**

*Composition:* 23 percent

*Geomorphic setting:* Scarp on escarpment on upland

*Position on landform:* Side slope

*Parent material:* Residuum weathered from clayey shale

*Slope:* 12 to 40 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 3 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 7e

*Ecological site number and name:* R078CY006OK Clayey Breaks PE 32-44

*Typical profile:*

A—0 to 5 inches; silty clay

C—5 to 11 inches; clay

Cd—11 to 80 inches; clay

*Representative profile location:* Greer County, OK; 1,400 feet north and 1,600 feet west of the southeast corner of Section 21, T.6 N., R.24 W. Latitude—34 degrees, 58 minutes, 36.5 seconds N; Longitude—99 degrees, 44 minutes, 9.5 seconds W. USGS Quadrangle: Reed.

### **Rock outcrop**

*Composition:* 20 percent

*Geomorphic setting:* Escarpment on upland

*Position on landform:* Side slope

*Parent material:* Sandstone and shale

*Slope:* 12 to 40 percent

*Runoff:* Very high

*Depth:* Paralithic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Very slow

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 8s

*Typical profile:*

Cr—0 to 62 inches; bedrock

*Representative profile location:* Greer County, OK; 1,700 feet north and 1,650 feet west of the southeast corner of Section 21, T.6 N., R.24 W. Latitude—34

## Soil Survey of Greer County, Oklahoma

degrees, 58 minutes, 39.1 seconds N; Longitude—99 degrees, 44 minutes, 10.4 seconds W. USGS Quadrangle: Reed.

### ***Additional Components***

Gotebo: 10 percent

Burford: 7 percent

## **SpDB—Springer and Devol loamy sands, 0 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 32 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 700 acres

### ***Component Description***

#### **Springer**

*Composition:* 70 percent

*Geomorphic setting:* Interdune on sand sheet on stream terrace on alluvial plain

*Parent material:* Coarse-loamy eolian sands over loamy alluvium

*Slope:* 0 to 3 percent

*Runoff:* Very low

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately rapid

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 5.2 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

*Typical profile:*

Ap—0 to 13 inches; loamy sand

Bt—13 to 42 inches; fine sandy loam

BC—42 to 57 inches; fine sand

Btb—57 to 80 inches; fine sandy loam

*Representative profile location:* Greer County, Oklahoma; 760 feet south and 1,900 feet west of the northeast corner of Section 3, T.7 N., R.22 W. Latitude—35 degrees, 6 minutes, 52 seconds N; Longitude—99 degrees, 30 minutes, 26 seconds W. USGS Quadrangle: Willow.

#### **Devol**

*Composition:* 22 percent

*Geomorphic setting:* Dune on sand sheet on stream terrace on alluvial plain

## Soil Survey of Greer County, Oklahoma

*Parent material:* Coarse-loamy alluvium and sandy eolian deposits  
*Slope:* 0 to 3 percent  
*Runoff:* Very low  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately rapid  
*Slowest permeability class within 80 inches:* Moderately rapid  
*Drainage class:* Well drained  
*Available water capacity:* About 5.5 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e  
*Land capability irrigated:* 3e  
*Ecological site number and name:* R078CY105TX Loamy Sand Prairie PE 31-44

#### *Typical profile:*

Ap—0 to 14 inches; loamy sand  
Bt1—14 to 29 inches; fine sandy loam  
Bt2—29 to 45 inches; fine sandy loam  
BC—45 to 65 inches; loamy sand  
C—65 to 80 inches; fine sand

*Representative profile location:* Greer County, Oklahoma; 100 feet north and 1,950 feet east of the southwest corner of Section 24, T.7 N., R.22 W. Latitude—35 degrees, 3 minutes, 33 seconds N; Longitude—99 degrees, 28 minutes, 21 seconds W. USGS Quadrangle: Lake Creek.

### ***Additional Components***

Grandfield: 5 percent  
Eda: 3 percent

## **SplA—Spur loam, 0 to 1 percent slopes, occasionally flooded**

### ***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 20 to 28 inches  
*Mean annual air temperature:* 57 to 65 degrees F  
*Frost-free period:* 180 to 240 days  
*Shape and configuration:* Long and narrow, 5 to 350 acres

### ***Component Description***

#### **Spur**

*Composition:* 90 percent  
*Geomorphic setting:* Flood plain on valley  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

## Soil Survey of Greer County, Oklahoma

*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Well drained  
*Available water capacity:* About 9.7 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* Occasional  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2w  
*Land capability irrigated:* 2w  
*Ecological site number and name:* R078CY050OK Loamy Bottomland PE 32-44

#### *Typical profile:*

Ap—0 to 11 inches; loam  
Bw—11 to 43 inches; loam  
C1—43 to 75 inches; fine sandy loam  
C2—75 to 90 inches; stratified fine sandy loam to clay loam

*Representative profile location:* Greer County, Oklahoma; 1,650 feet south and 1,100 feet east of the northwest corner of Section 7, T.5 N., R.21 W. Latitude—34 degrees, 55 minutes, 28.25 seconds N; Longitude—99 degrees, 27 minutes, 46.00 seconds W. USGS Quadrangle: Granite.

### ***Additional Components***

Westola: 7 percent  
Clairemont: 3 percent

## **SurA—Spur clay loam, 0 to 1 percent slopes, rarely flooded**

### ***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Irregular, 20 to 500 acres

### ***Component Description***

#### **Spur**

*Composition:* 84 percent  
*Geomorphic setting:* Flood-plain step on flood plain on valley  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Well drained  
*Available water capacity:* About 10.0 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* Rare  
*Ponding:* None



***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R078CY050OK Loamy Bottomland PE 32-44

*Typical profile:*

Ap—0 to 14 inches; clay loam

Bw1—14 to 30 inches; clay loam

Bw2—30 to 51 inches; clay loam

C—51 to 80 inches; stratified fine sandy loam to clay loam

*Representative profile location:* Jackson County, Oklahoma; 1,600 feet south and 1,600 feet east of the northwest corner of Section 25, T.2 N., R.22 W. Latitude—34 degrees, 37 minutes, 08 seconds N; Longitude—99 degrees, 28 minutes, 06 seconds W. USGS Quadrangle: Olustee.

***Additional Components***

Hayfork: 8 percent

Westola: 8 percent

**SuuA—Spur clay loam, 0 to 1 percent slopes,  
occasionally flooded**

***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 10 to 250 acres

***Component Description***

**Spur**

*Composition:* 90 percent

*Geomorphic setting:* Flood plain on alluvial plain

*Parent material:* Calcareous loamy alluvium

*Slope:* 0 to 1 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 10.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* Occasional

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 2w

*Land capability irrigated:* 2w

*Ecological site number and name:* R078CY050OK Loamy Bottomland PE 32-44

*Typical profile:*

Ap—0 to 10 inches; clay loam

## Soil Survey of Greer County, Oklahoma

A—10 to 16 inches; loam  
Bk—16 to 48 inches; clay loam  
Cy—48 to 80 inches; clay loam

*Representative profile location:* Jackson County, Oklahoma; 200 feet south and 2,100 feet west of the northeast corner of Section 19, T.1 S., R.21 W. Latitude—34 degrees, 27 minutes, 49 seconds N; Longitude—99 degrees, 26 minutes, 12 seconds W. USGS Quadrangle: Ayers Island.

### ***Additional Components***

Westola: 7 percent  
Rups: 3 percent

## **SuwA—Spur clay loam, 0 to 1 percent slopes, frequently flooded**

### ***Map Unit Setting***

*MLRA:* 78B  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 20 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Long and narrow, 10 to 100 acres

### ***Component Description***

#### **Spur**

*Composition:* 87 percent  
*Geomorphic setting:* Flood plain on alluvial plain  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Well drained  
*Available water capacity:* About 10.0 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* Frequent  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 5w  
*Ecological site number and name:* R078BY080TX Loamy Bottomland PE 25-36

#### ***Typical profile:***

Ap—0 to 8 inches; clay loam  
Bw1—8 to 17 inches; clay loam  
Bw2—17 to 35 inches; clay loam  
Bk—35 to 49 inches; sandy clay loam  
C—49 to 80 inches; stratified fine sandy loam to clay loam

*Representative profile location:* Jackson County, Oklahoma; 1,800 feet south and 400 feet west of the northeast corner of Section 15, T.1 S., R.24 W. Latitude—34

degrees, 28 minutes, 27 seconds N; Longitude—99 degrees, 41 minutes, 31 seconds W. USGS Quadrangle: Eldorado.

***Additional Components***

Westola: 8 percent

Rups: 5 percent

**TARD—Talpa-Aspermont-Rock outcrop complex, 1 to 8 percent slopes**

***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

***Component Description***

**Talpa**

*Composition:* 46 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Side slope

*Parent material:* Loamy residuum weathered from limestone and dolomite

*Slope:* 1 to 8 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 4 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.1 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 7s

*Ecological site number and name:* R078BY091TX Very Shallow PE 25-36

*Typical profile:*

A—0 to 7 inches; loam

R—7 to 40 inches; bedrock

*Representative profile location:* Jackson County, Oklahoma; 2,275 feet south and 2,150 feet west of the northeast corner of Section 3, T.2 N., R.22 W. Latitude—34 degrees, 40 minutes, 30 seconds N; Longitude—99 degrees, 29 minutes, 55 seconds W. USGS Quadrangle: Martha.

**Aspermont**

*Composition:* 37 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Side slope

*Parent material:* Fine-silty colluvium over silty and clayey residuum weathered from shale and siltstone

## Soil Survey of Greer County, Oklahoma

*Slope:* 1 to 5 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 7.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Ecological site number and name:* R078BY079TX Loamy PE 25-36

*Typical profile:*

A—0 to 10 inches; silt loam

Bk—10 to 42 inches; silty clay loam

Cd—42 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 2,200 feet south and 2,100 feet west of the northeast corner of Section 3, T.2 N., R.22 W. Latitude—34 degrees, 40 minutes, 31 seconds N; Longitude—99 degrees, 29 minutes, 54 seconds W. USGS Quadrangle: Martha.

### **Rock outcrop**

*Composition:* 11 percent

*Geomorphic setting:* Hill on karst

*Position on landform:* Side slope

*Parent material:* Dolomite

*Slope:* 1 to 8 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 0 to 3 inches

*Slowest permeability class within 80 inches:* Impermeable

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 8s

*Typical profile:*

R—0 to 60 inches; bedrock

*Representative profile location:* Jackson County, Oklahoma; 2,400 feet south and 2,200 feet west of the northeast corner of Section 3, T.2 N., R.22 W. Latitude—34 degrees, 40 minutes, 28 seconds N; Longitude—99 degrees, 29 minutes, 56 seconds W. USGS Quadrangle: Martha.

### ***Additional Components***

Nipsum: 4 percent

Cottonwood: 2 percent

## **TilA—Tillman clay loam, 0 to 1 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 1,500 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 65 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 20 to 600 acres

### ***Component Description***

#### **Tillman**

*Composition:* 85 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous clayey and loamy alluvium derived from claystone

*Slope:* 0 to 1 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 80 to 100 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Very slow

*Drainage class:* Well drained

*Available water capacity:* About 8.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R078CY096TX Clay Loam PE 31-44

#### ***Typical profile:***

Ap—0 to 8 inches; clay loam

Bt—8 to 15 inches; clay loam

Btk1—15 to 45 inches; clay

Btk2—45 to 62 inches; clay

2BC—62 to 78 inches; clay

2C—78 to 90 inches; silty clay

2Cd—90 to 100 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 1,900 feet north and 2,100 feet east of the southwest corner of Section 26, T.2 N., R.20 W. Latitude—34 degrees, 36 minutes, 50 seconds N; Longitude—99 degrees, 16 minutes, 27 seconds W. USGS Quadrangle: Altus SE.

### ***Additional Components***

Hollister: 12 percent

Tilvern: 3 percent

## **TilB—Tillman clay loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 1,500 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 65 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 20 to 600 acres

### ***Component Description***

#### **Tillman**

*Composition:* 85 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous clayey and loamy alluvium derived from claystone

*Slope:* 1 to 3 percent

*Runoff:* High

*Depth:* Densic bedrock at 80 to 100 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Slow

*Slowest permeability class within 80 inches:* Slow

*Drainage class:* Well drained

*Available water capacity:* About 8.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY096TX Clay Loam PE 31-44

#### ***Typical profile:***

Ap—0 to 6 inches; clay loam

Bt1—6 to 10 inches; clay loam

Bt2—10 to 25 inches; clay

Btk1—25 to 48 inches; clay

Btk2—48 to 60 inches; clay

BCk—60 to 82 inches; clay

2C—82 to 90 inches; silty clay

2Cd—90 to 100 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 700 feet north and 100 feet east of the southwest corner of Section 4, T.1 N., R.20 W. Latitude—34 degrees, 34 minutes, 54 seconds N; Longitude—99 degrees, 18 minutes, 56 seconds W. USGS Quadrangle: Altus SE.

### ***Additional Components***

Hollister: 8 percent

Tilvern: 7 percent

## TipA—Tipton loam, 0 to 1 percent slopes

### **Map Unit Setting** (fig. 16)

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 28 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

*Note:* This map unit has areas that have a thinner mollic epipedon than is allowed for the series, but, use and management is not affected by this difference.

### **Component Description**

#### **Tipton**

*Composition:* 80 percent

*Geomorphic setting:* Stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous loamy and silty alluvium

*Slope:* 0 to 1 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 10.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None



Figure 16.—Landscape of irrigated cotton on Tipton loam, 0 to 1 percent slopes.

***Interpretive Groups***

*Land capability nonirrigated:* 1

*Land capability irrigated:* 1

*Ecological site number and name:* R078CY056OK Loamy Prairie PE 32-44

*Typical profile:*

Ap—0 to 8 inches; loam

A—8 to 15 inches; loam

Bt—15 to 25 inches; clay loam

Btk—25 to 41 inches; clay loam

Bk—41 to 66 inches; clay loam

C—66 to 80 inches; loam

*Representative profile location:* Jackson County, Oklahoma; 1,000 feet south and 450 feet west of the northeast corner of Section 24, T.1 S., R.20 W. Latitude—34 degrees, 27 minutes, 42 seconds N; Longitude—99 degrees, 14 minutes, 18 seconds W. USGS Quadrangle: White Lake.

***Additional Components***

Roark: 10 percent

Devol: 5 percent

Ozark: 5 percent

**TlvB—Tilvern clay loam, 1 to 3 percent slopes**

***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

***Component Description***

**Tilvern**

*Composition:* 85 percent

*Geomorphic setting:* Hill on upland

*Position on landform:* Base slope

*Parent material:* Calcareous clayey residuum weathered from claystone

*Slope:* 1 to 3 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 40 to 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 6.8 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 3s

*Land capability irrigated:* 3s

*Ecological site number and name:* R078BY090TX Shallow Clay PE 25-36



*Typical profile:*

Ap—0 to 5 inches; clay loam  
Bk—5 to 11 inches; silty clay  
Bkss—11 to 31 inches; silty clay  
Bky—31 to 44 inches; silty clay  
BCky—44 to 51 inches; silty clay  
Cd—51 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 1,200 feet north and 2,200 feet east of the southwest corner of Section 24, T.1 N., R.23 W. Latitude—34 degrees, 32 minutes, 21 seconds N; Longitude—99 degrees, 34 minutes, 19 seconds W. USGS Quadrangle: Prairie Hill.

***Additional Components***

Westill: 12 percent

Knoco: 3 percent

**TpfA—Tipton fine sandy loam, 0 to 1 percent slopes**

***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

***Component Description***

**Tipton**

*Composition:* 90 percent

*Geomorphic setting:* Stream terrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous loamy and silty alluvium

*Slope:* 0 to 1 percent

*Runoff:* Negligible

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderate

*Drainage class:* Well drained

*Available water capacity:* About 9.9 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY056OK Loamy Prairie PE 32-44

*Typical profile:*

Ap—0 to 7 inches; fine sandy loam  
A—7 to 13 inches; fine sandy loam  
BA—13 to 24 inches; loam  
Bt—24 to 47 inches; clay loam

Btk—47 to 63 inches; sandy clay loam

BCK—63 to 80 inches; sandy loam

*Representative profile location:* Jackson County, Oklahoma; 450 feet south and 600 feet east of the northwest corner of Section 9, T.3 N., R.21 W. Latitude—34 degrees, 45 minutes, 11 seconds N; Longitude—99 degrees, 25 minutes, 15 seconds W. USGS Quadrangle: Hester.

***Additional Components***

Roark: 7 percent

Grandfield: 3 percent

**TrwB—Treadway silty clay loam, 0 to 2 percent slopes**

***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,400 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 5 to 175 acres

***Component Description***

**Treadway** (fig. 17)

*Composition:* 87 percent

*Geomorphic setting:* Alluvial fan on pediment on upland

*Position on landform:* Base slope

*Parent material:* Calcareous, saline silty and clayey alluvium derived from clayey shale

*Slope:* 0 to 2 percent

*Runoff:* Very high

*Depth:* Greater than 60 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Very slow

*Drainage class:* Well drained

*Available water capacity:* About 5.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

*Salt affected:* Saline within 30 inches

*Sodium affected:* Sodic within 30 inches

***Interpretive Groups***

*Land capability nonirrigated:* 4s

*Ecological site number and name:* R078BY071TX Clay Flat PE 25-36

*Typical profile:*

Ap—0 to 13 inches; silty clay loam

Bk<sub>yz</sub>1—13 to 24 inches; silty clay loam

Bk<sub>yz</sub>2—24 to 80 inches; silty clay

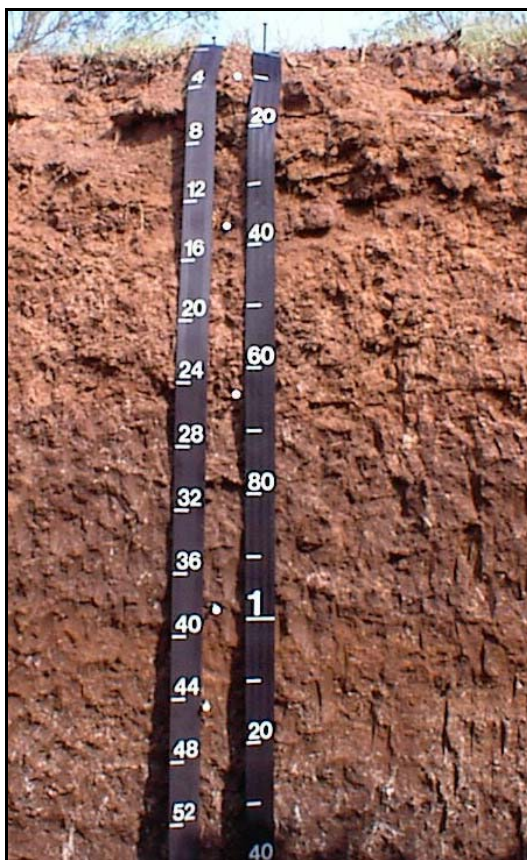


Figure 17.—Profile of Treadway silty clay loam, 0 to 2 percent slopes. The scale on the left is in inches; the scale on the right is in centimeters.

*Representative profile location:* Greer County, Oklahoma; 2,100 feet south and 400 feet east of the northwest corner of Section 1, T.7 N., R.24 W. Latitude—35 degrees, 6 minutes, 39 seconds N; Longitude—99 degrees, 41 minutes, 35 seconds W. USGS Quadrangle: Plainview.

***Additional Components***

Westill: 8 percent

Vernon: 5 percent

**VeKE—Vernon-Knoco complex, 1 to 12 percent slopes**

***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 21 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 180 to 230 days

*Shape and configuration:* Irregular, 20 to 2,000 acres

### **Component Description**

#### **Vernon**

*Composition:* 50 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Backslope

*Parent material:* Calcareous clayey residuum weathered from claystone

*Slope:* 1 to 12 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 20 to 40 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 3.5 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078BY090TX Shallow Clay PE 25-36

*Typical profile:*

A—0 to 6 inches; clay loam

Bk—6 to 26 inches; clay

Cd—26 to 80 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 750 feet north and 600 feet west of the southeast corner of Section 20, T.3 N., R.23 W. Latitude—34 degrees, 42 minutes, 44 seconds N; Longitude—99 degrees, 38 minutes, 02 seconds W. USGS Quadrangle: McQueen.

#### **Knoco**

*Composition:* 35 percent

*Geomorphic setting:* Hill on upland

*Position on hillslope:* Backslope

*Parent material:* Calcareous clayey residuum weathered from shale

*Slope:* 1 to 12 percent

*Runoff:* Very high

*Depth:* Densic bedrock at 3 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078BY092TX Very Shallow Clay PE 25-36

*Typical profile:*

A—0 to 6 inches; silty clay

C—6 to 16 inches; clay

Cd—16 to 60 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 250 feet north and 600 feet west of the southeast corner of Section 20, T.3 N., R.23 W. Latitude—34 degrees, 42 minutes, 39 seconds N; Longitude—99 degrees, 38 minutes, 02 seconds W. USGS Quadrangle: McQueen.

***Additional Components***

Badland: 10 percent  
Cottonwood: 3 percent  
Rock outcrop: 2 percent

**VerC—Vernon clay loam, 3 to 5 percent slopes**

***Map Unit Setting***

*MLRA:* 78B  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 30 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 190 to 230 days  
*Shape and configuration:* Irregular, 5 to 100 acres

***Component Description***

**Vernon**

*Composition:* 78 percent  
*Geomorphic setting:* Hillslope on hill on upland  
*Position on hillslope:* Backslope  
*Parent material:* Calcareous clayey residuum weathered from claystone  
*Slope:* 3 to 5 percent  
*Runoff:* Very high  
*Depth:* Densic bedrock at 20 to 40 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow  
*Slowest permeability class within 80 inches:* Impermeable  
*Drainage class:* Well drained  
*Available water capacity:* About 4.7 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 4e  
*Land capability irrigated:* 3e  
*Ecological site number and name:* R078BY090TX Shallow Clay PE 25-36

***Typical profile:***

Ap—0 to 6 inches; clay loam  
Bk—6 to 26 inches; clay  
BCk—26 to 35 inches; clay  
Cd—35 to 80 inches; clay

*Representative profile location:* Jackson County, Oklahoma; 1,100 feet north and 2,100 feet west of the southeast corner of Section 20, T.1 S., R.22 W. Latitude—34 degrees, 31 minutes, 11 seconds N; Longitude—99 degrees, 31 minutes, 27 seconds W. USGS Quadrangle: Quanah NE.

***Additional Components***

Westill: 10 percent  
Knoco: 8 percent  
Burford: 4 percent

**VeTE—Vernon-Talpa complex, 1 to 12 percent slopes,  
stony**

***Map Unit Setting***

MLRA: 78B  
Elevation: 1,000 to 2,000 feet  
Mean annual precipitation: 20 to 30 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 190 to 230 days  
Shape and configuration: Irregular, 20 to 2,000 acres

***Component Description***

**Vernon**

Composition: 53 percent  
Geomorphic setting: Hillslope on hill on upland  
Position on hillslope: Backslope  
Parent material: Calcareous clayey residuum weathered from claystone  
Slope: 1 to 12 percent  
Runoff: Very high  
Depth: Densic bedrock at 20 to 40 inches  
Slowest permeability class of the soil to 60 inches or above a restrictive layer: Very slow  
Slowest permeability class within 80 inches: Impermeable  
Drainage class: Well drained  
Available water capacity: About 4.4 inches  
Depth to the top of the seasonal high water table: Greater than 6 feet  
Flooding: None  
Ponding: None

***Interpretive Groups***

Land capability nonirrigated: 6e  
Ecological site number and name: R078BY090TX Shallow Clay PE 25-36

***Typical profile:***

A—0 to 7 inches; clay loam  
Bk1—7 to 16 inches; clay  
Bk2—16 to 25 inches; clay  
Ck—25 to 38 inches; clay  
Cd—38 to 80 inches; clay

***Representative profile location:*** Jackson County, Oklahoma; 250 feet north and 2,100 feet east of the southwest corner of Section 34, T.2 N., R.23 W. Latitude—34 degrees, 35 minutes, 42 seconds N; Longitude—99 degrees, 30 minutes, 07 seconds W. USGS Quadrangle: Prairie Hill.

**Talpa**

Composition: 25 percent  
Geomorphic setting: Hill on upland  
Position on landform: Side slope

## Soil Survey of Greer County, Oklahoma

*Parent material:* Loamy residuum weathered from limestone and dolomite

*Slope:* 1 to 12 percent

*Runoff:* Very high

*Depth:* Lithic bedrock at 4 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 1.4 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 7s

*Ecological site number and name:* R078BY091TX Very Shallow PE 25-36

*Typical profile:*

A—0 to 9 inches; loam

R—9 to 40 inches; bedrock

*Representative profile location:* Jackson County, Oklahoma; 400 feet north and 2,350 feet east of the southwest corner of Section 34, T.2 N., R.23 W. Latitude—34 degrees, 35 minutes, 43 seconds N; Longitude—99 degrees, 30 minutes, 04 seconds W. USGS Quadrangle: Prairie Hill.

### ***Additional Components***

Aspermont: 10 percent

Knoco: 10 percent

Rock outcrop: 2 percent

## **W—Water**

This map unit consists of areas of fresh water, including ponds, lakes, and rivers.

## **WlwB—Willow loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78C

*Elevation:* 1,100 to 1,700 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 5 to 800 acres

### ***Component Description***

#### **Willow**

*Composition:* 85 percent

*Geomorphic setting:* Terrace on alluvial plain on pediment on upland

*Position on landform:* Tread

*Parent material:* Silty alluvium over silty residuum weathered from sandstone and siltstone

*Slope:* 1 to 3 percent

*Runoff:* Medium

*Depth:* Densic bedrock at 40 to 60 inches

## Soil Survey of Greer County, Oklahoma

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*

Moderately slow

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 8.8 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY056OK Loamy Prairie PE 32-44

*Typical profile:*

Ap—0 to 7 inches; loam

Bt—7 to 31 inches; clay loam

2Bk—31 to 39 inches; loam

2BCK—39 to 54 inches; loam

2Cd—54 to 80 inches; loam

*Representative profile location:* Greer County, Oklahoma; 600 feet south and 400 feet west of the northeast corner of Section 17, T.6 N., R.22 W. Latitude—35 degrees, 00 minutes, 01 seconds N; Longitude—99 degrees, 32 minutes, 17 seconds W. USGS Quadrangle: Willow.

### ***Additional Components***

Westill: 8 percent

Roark: 5 percent

Gotebo: 2 percent

## **WooB—Woodward loam, 1 to 3 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,500 to 2,200 feet

*Mean annual precipitation:* 20 to 28 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Shape and configuration:* Irregular, 5 to 300 acres

### ***Component Description***

#### **Woodward**

*Composition:* 87 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Shoulder

*Parent material:* Coarse-silty residuum weathered from sandstone

*Slope:* 1 to 3 percent

*Runoff:* Low

*Depth:* Densic bedrock at 20 to 40 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 5.2 inches



*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3s

*Land capability irrigated:* 3e

*Ecological site number and name:* R078BY081TX Loamy Prairie PE 25-36

*Typical profile:*

A—0 to 15 inches; loam

Bw—15 to 32 inches; loam

B<sub>Ck</sub>—32 to 38 inches; very fine sandy loam

Cd—38 to 80 inches; very fine sandy loam

*Representative profile location:* Harmon County, Oklahoma. 300 feet north and 2,500 feet east of the southwest corner of Section 15, T.5 N., R.26 W. Latitude—34 degrees, 54 minutes, 4.5 seconds N; Longitude—99 degrees, 55 minutes, 56.5 seconds W.(NAD 27) USGS Quadrangle: Madge, OK.

### ***Additional Components***

Carey: 8 percent

Quinlan: 5 percent

## **WooC—Woodward loam, 3 to 5 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,500 to 2,200 feet

*Mean annual precipitation:* 20 to 30 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 220 days

*Shape and configuration:* Irregular, 5 to 500 acres

### ***Component Description***

#### **Woodward**

*Composition:* 90 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Shoulder

*Parent material:* Coarse-silty residuum weathered from sandstone

*Slope:* 3 to 5 percent

*Runoff:* Low

*Depth:* Densic bedrock at 20 to 40 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 4.3 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e

*Land capability irrigated:* 3e

*Ecological site number and name:* R078BY081TX Loamy Prairie PE 25-36

*Typical profile:*

A—0 to 7 inches; loam  
Bk—7 to 19 inches; loam  
BCk—19 to 28 inches; loam  
Cd—28 to 80 inches; very fine sandy loam

*Representative profile location:* Harmon County, Oklahoma; 750 feet south and 3,050 feet west of the northeast corner of Section 20, T.5 N., R.26 W. Latitude—34 degrees, 53 minutes, 54 seconds N; Longitude—99 degrees, 58 minutes, 6 seconds W. (NAD 27) USGS Quadrangle: Madge, OK.

***Additional Components***

Quinlan: 5 percent  
Shrewder: 5 percent

**WoQE—Woodward-Quinlan complex, 5 to 12 percent slopes**

***Map Unit Setting***

MLRA: 78B  
Elevation: 1,500 to 2,200 feet  
Mean annual precipitation: 20 to 30 inches  
Mean annual air temperature: 57 to 64 degrees F  
Frost-free period: 185 to 220 days  
Shape and configuration: Irregular, 5 to 500 acres

***Component Description***

**Woodward**

*Composition:* 50 percent  
*Geomorphic setting:* Hillslope on hill on upland  
*Position on hillslope:* Backslope  
*Parent material:* Coarse-silty residuum weathered from sandstone  
*Slope:* 5 to 12 percent  
*Runoff:* Medium  
*Depth:* Densic bedrock at 20 to 40 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderately slow  
*Drainage class:* Well drained  
*Available water capacity:* About 3.6 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* None  
*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated:* 6e  
*Ecological site number and name:* R078BY081TX Loamy Prairie PE 25-36

*Typical profile:*

A—0 to 9 inches; loam  
Bk—9 to 21 inches; loam  
BCk—21 to 26 inches; loam  
Cd—26 to 80 inches; very fine sandy loam

## Soil Survey of Greer County, Oklahoma

*Representative profile location:* Harmon County, Oklahoma; 3,100 feet south and 1,290 feet west of the northeast corner of Section 22, T.5 N., R.26 W. Latitude—34 degrees, 53 minutes, 31 seconds N; Longitude—99 degrees, 55 minutes, 38.5 seconds W.(NAD 27) USGS Quadrangle: Madge, OK.

### **Quinlan**

*Composition:* 37 percent

*Geomorphic setting:* Hillslope on hill on upland

*Position on hillslope:* Backslope

*Parent material:* Loamy residuum weathered from sandstone

*Slope:* 5 to 12 percent

*Runoff:* High

*Depth:* Densic bedrock at 10 to 20 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate

*Slowest permeability class within 80 inches:* Moderately slow

*Drainage class:* Well drained

*Available water capacity:* About 1.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

### **Interpretive Groups**

*Land capability nonirrigated:* 6e

*Ecological site number and name:* R078CY084OK Shallow Prairie (south) PE 32-44

*Typical profile:*

A—0 to 4 inches; loam

Bk—4 to 12 inches; loam

Cd—12 to 40 inches; very fine sandy loam

*Representative profile location:* Harmon County, Oklahoma; 3,100 feet south and 1,240 feet west of the northeast corner of Section 22, T.5 N., R.26 W. Latitude—34 degrees, 53 minutes, 31 seconds N; Longitude—99 degrees, 55 minutes, 38 seconds W.(NAD 27) USGS Quadrangle: Madge, OK.

### **Additional Components**

Shrewder: 10 percent

Rock outcrop: 3 percent

## **Ws1A—Westola fine sandy loam, 0 to 1 percent slopes, occasionally flooded**

### **Map Unit Setting**

*MLRA:* 78C

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 38 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 185 to 230 days

*Shape and configuration:* Irregular, 10 to 250 acres

### **Component Description**

#### **Westola**

*Composition:* 90 percent

*Geomorphic setting:* Flood plain on valley

## Soil Survey of Greer County, Oklahoma

*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:*  
Moderately rapid  
*Slowest permeability class within 80 inches:* Moderately rapid  
*Drainage class:* Well drained  
*Available water capacity:* About 8.2 inches  
*Depth to the top of the seasonal high water table:* Greater than 6 feet  
*Flooding:* Occasional  
*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 3e  
*Land capability irrigated:* 3e  
*Ecological site number and name:* R078CY050OK Loamy Bottomland PE 32-44

#### *Typical profile:*

A—0 to 12 inches; fine sandy loam  
C1—12 to 50 inches; stratified fine sandy loam to loam  
C2—50 to 80 inches; stratified sand to sandy loam

*Representative profile location:* Jackson County, Oklahoma; 1,200 feet north and 1,000 feet east of the southwest corner of Section 15, T.1 N., R.21 W. Latitude—34 degrees, 33 minutes, 15 seconds N; Longitude—99 degrees, 24 minutes, 03 seconds W. USGS Quadrangle: Olustee.

### ***Additional Components***

Lincoln: 6 percent  
Gracemont: 4 percent

## **WstA—Westola fine sandy loam, 0 to 1 percent slopes, rarely flooded**

### ***Map Unit Setting***

*MLRA:* 78C  
*Elevation:* 1,000 to 2,000 feet  
*Mean annual precipitation:* 22 to 28 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 180 to 230 days  
*Shape and configuration:* Irregular, 20 to 500 acres

### ***Component Description***

#### **Westola**

*Composition:* 92 percent  
*Geomorphic setting:* Flood-plain step on flood plain on valley  
*Parent material:* Calcareous loamy alluvium  
*Slope:* 0 to 1 percent  
*Runoff:* Negligible  
*Depth:* Greater than 60 inches  
*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Moderate  
*Slowest permeability class within 80 inches:* Moderate  
*Drainage class:* Well drained

## Soil Survey of Greer County, Oklahoma

*Available water capacity:* About 8.6 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* Rare

*Ponding:* None

### ***Interpretive Groups***

*Land capability nonirrigated:* 2e

*Land capability irrigated:* 2e

*Ecological site number and name:* R078CY050OK Loamy Bottomland PE 32-44

#### ***Typical profile:***

Ap—0 to 8 inches; fine sandy loam

A—8 to 19 inches; loam

C1—19 to 30 inches; fine sandy loam

C2—30 to 80 inches; stratified fine sandy loam to loam

*Representative profile location:* Jackson County, Oklahoma; 2,500 feet south and 1,900 feet west of the northeast corner of Section 4, T.2 N., R.21 W. Latitude—34 degrees, 40 minutes, 28 seconds N; Longitude—99 degrees, 24 minutes, 36 seconds W. USGS Quadrangle: Martha.

### ***Additional Components***

Spur: 5 percent

Lincoln: 3 percent

## **Wt1A—Westill clay loam, 0 to 1 percent slopes**

### ***Map Unit Setting***

*MLRA:* 78B

*Elevation:* 1,000 to 2,000 feet

*Mean annual precipitation:* 22 to 30 inches

*Mean annual air temperature:* 58 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Shape and configuration:* Irregular, 10 to 300 acres

### ***Component Description***

#### **Westill**

*Composition:* 85 percent

*Geomorphic setting:* Paleoterrace on alluvial plain

*Position on landform:* Tread

*Parent material:* Calcareous clayey alluvium over silty and clayey residuum weathered from claystone

*Slope:* 0 to 1 percent

*Runoff:* High

*Depth:* Densic bedrock at 60 to 80 inches

*Slowest permeability class of the soil to 60 inches or above a restrictive layer:* Very slow

*Slowest permeability class within 80 inches:* Impermeable

*Drainage class:* Well drained

*Available water capacity:* About 8.0 inches

*Depth to the top of the seasonal high water table:* Greater than 6 feet

*Flooding:* None

*Ponding:* None

***Interpretive Groups***

*Land capability nonirrigated: 2s*

*Land capability irrigated: 2s*

*Ecological site number and name: R078BY072TX Clay Loam PE 25-36*

*Typical profile:*

Ap—0 to 5 inches; clay loam

Bt1—5 to 15 inches; clay

Bt2—15 to 24 inches; clay

Btk—24 to 55 inches; clay

2C—55 to 70 inches; silty clay

2Cd—70 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 2,150 feet north and 150 feet west of the southeast corner of Section 4, T.2 N., R.25 W. Latitude—34 degrees, 40 minutes, 25 seconds N; Longitude—99 degrees, 49 minutes, 29 seconds W. USGS Quadrangle: Gould.

***Additional Components***

Hollister: 12 percent

Tilvern: 3 percent

**WtIB—Westill clay loam, 1 to 3 percent slopes**

***Map Unit Setting***

*MLRA: 78B*

*Elevation: 1,000 to 2,000 feet*

*Mean annual precipitation: 22 to 30 inches*

*Mean annual air temperature: 58 to 64 degrees F*

*Frost-free period: 190 to 230 days*

*Shape and configuration: Irregular, 10 to 300 acres*

***Component Description***

**Westill**

*Composition: 83 percent*

*Geomorphic setting: Paleoterrace on alluvial plain*

*Position on landform: Tread*

*Parent material: Calcareous clayey alluvium over silty and clayey residuum weathered from claystone*

*Slope: 1 to 3 percent*

*Runoff: Very high*

*Depth: Densic bedrock at 60 to 80 inches*

*Slowest permeability class of the soil to 60 inches or above a restrictive layer: Very slow*

*Slowest permeability class within 80 inches: Impermeable*

*Drainage class: Well drained*

*Available water capacity: About 7.7 inches*

*Depth to the top of the seasonal high water table: Greater than 6 feet*

*Flooding: None*

*Ponding: None*

***Interpretive Groups***

*Land capability nonirrigated: 3e*

*Land capability irrigated: 2e*

## Soil Survey of Greer County, Oklahoma

*Ecological site number and name:* R078BY072TX Clay Loam PE 25-36

*Typical profile:*

Ap—0 to 9 inches; clay loam  
Bt—9 to 16 inches; clay  
Btk—16 to 47 inches; clay  
2BCK—47 to 56 inches; clay  
2C—56 to 68 inches; silty clay  
2Cd—68 to 80 inches; silty clay

*Representative profile location:* Jackson County, Oklahoma; 350 feet north and 2,300 feet west of the southeast corner of Section 23, T.3 N., R.23 W. Latitude—34 degrees, 42 minutes, 40 seconds N; Longitude—99 degrees, 35 minutes, 12 seconds W. USGS Quadrangle: Duke.

### ***Additional Components***

Hollister: 10 percent  
Tilvern: 7 percent





# Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Interpretive ratings help engineers, planners, and others understand how soil properties influence important nonagricultural uses, such as building site development and acquisition of construction materials. The ratings indicate the most restrictive soil features affecting the suitability of the soils for these uses.

Soils are rated in their natural state. No unusual modification of the soil site or material is made other than that which is considered normal practice for the rated use. Even though soils may have limitations, it is important to remember that engineers and others can modify soil features or can design or adjust the plans for a structure to compensate for most of the limitations. Most of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs of site preparation and maintenance.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

The classification and extent of the soils in this survey area are shown in the tables, "Classification of the Soils" and "Acreage and Proportionate Extent of the Soils."

## Agronomy

General management concerns affecting crops, hay, and pasture are identified in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained, and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that are designed to show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, as described in "Land Capability Classification" (8), soils generally are grouped at three levels: capability class, subclass, and unit. These levels indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by Arabic numerals 1 through 8. The numerals indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide guidance on the use of these soils as cropland.

Areas in class 8 are generally not suitable for crops, pasture, rangeland, or woodland. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses identify the dominant kind of limitation in the class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, 2e. The letter e shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use mainly to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability classification of each map unit is shown in the tables, "Land Capability and Yields per Acre of Crops" and "Land Capability and Yields per Acre of Hay and Pasture."

## **Estimated Yields of Crops, Pasture, and Hay**

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables, "Land Capability and Yields per Acre of Crops" and "Land Capability and Yields per Acre of Hay and Pasture." In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the tables.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small.

Under good pasture management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often indicated in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in the tables, "Land Capability and Yields per Acre of Crops" and "Land Capability and Yields per Acre of Hay and Pasture."

# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Crops

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
AceB: Acme-----	3e	3e	2.50	4.50	325.00	750.00	30.00	85.00	---	---	Bu	Bu
ArHF: Arnett-----	4e	---	---	---	---	---	---	---	---	---	---	---
Hardeman-----	6e	---	---	---	---	---	---	---	---	---	---	---
ArnB: Arnett-----	2e	2e	2.50	---	250.00	---	30.00	---	---	---	28.00	---
ArnC: Arnett-----	3e	3e	2.00	---	200.00	---	25.00	---	---	---	20.00	---
AsmB: Aspermont-----	3e	3e	---	---	200.00	---	20.00	---	---	---	20.00	---
AsmC: Aspermont-----	3e	3e	---	---	150.00	---	---	---	---	---	15.00	---
BekA: Beckman-----	4w	---	---	---	100.00	---	10.00	---	---	---	10.00	---
BfdB: Burford-----	3e	2e	---	---	225.00	---	22.00	---	---	---	20.00	---
BfdC: Burford-----	3e	3e	---	---	175.00	---	---	---	---	---	15.00	---
BfSC2: Burford, moderately eroded-----	3e	3e	---	---	150.00	---	---	---	---	---	13.00	---
Spikebox, moderately eroded-	4s	4s	---	---	---	---	---	---	---	---	8.00	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
BfSE:												
Burford-----	6e	---	Tons	Tons	Lbs	Lbs	Bu	Bu	Lbs	Lbs	Bu	Bu
Spikebox-----	6e	---										
Brie:												
Brico-----	6e	---										
Buka:												
Bukreek-----	1	1	2.50	---	325.00	---	33.00	---	---	---	30.00	---
CarB:												
Carey-----	2e	2e	2.50	---	300.00	---	30.00	---	---	---	30.00	---
CawA:												
Carwile-----	5w	---										
CVRD:												
Cottonwood-----	7s	---										
Vinson-----	4e	---										
Rock outcrop-----	8s	---										
DAM:												
Dan-----	8	---										
DeSD:												
Devol-----	4e	4e	2.00	---	175.00	---	20.00	---	1,000.00	2,500.00	18.00	---
Springer-----	4e	4e	2.20	---	225.00	---	25.00	---	1,000.00	2,500.00	22.00	---
DkuA:												
Duke-----	4w	---			225.00	---	25.00	---			20.00	---
Doda:												
Dodson-----	1	1	2.80	---	375.00	---	40.00	---			35.00	---
DodB:												
Dodson-----	2e	2e	2.50	---	350.00	---	35.00	---			35.00	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
EatA: Eastall-----			Tons	Tons	Lbs	Lbs	Bu	Bu	Lbs	Lbs	Bu	Bu
	5w	---	---	---	---	---	---	---	---	---	---	---
EdsB: Eda-----	3e	3e	2.00	---	150.00	---	20.00	---	1,000.00	2,500.00	18.00	---
EdsD: Eda-----	4e	4e	---	---	---	---	---	---	900.00	2,100.00	12.00	---
EdsF: Eda-----	6e	---	---	---	---	---	---	---	---	---	---	---
FrAB: Frankirk-----	2e	2e	2.50	---	350.00	900.00	35.00	100.00	---	---	35.00	---
FryB: Farry-----	2e	2e	2.80	6.00	350.00	900.00	40.00	100.00	---	---	35.00	---
GdFB: Grandfield-----	3e	2e	3.00	5.50	300.00	750.00	30.00	85.00	1,100.00	3,100.00	28.00	---
GLGB: Grandmore-----	3e	3e	3.20	5.50	300.00	700.00	30.00	85.00	1,200.00	3,200.00	28.00	---
Grandfield-----	3e	3e	3.00	5.50	275.00	700.00	30.00	85.00	1,100.00	3,100.00	25.00	---
GLsB: Grandfield-----	3e	3e	3.00	5.50	275.00	700.00	30.00	85.00	1,100.00	3,100.00	25.00	---
GLsD: Grandfield-----	4e	4e	---	---	---	---	---	---	1,100.00	2,800.00	20.00	---
GmuA: Gracemont, saline--	4w	---	---	---	---	---	---	---	---	---	15.00	---
GmwA: Gracemont, saline--	5w	---	---	---	---	---	---	---	---	---	---	---
GrrA: Gracemore, saline--	4w	---	---	---	---	---	---	---	---	---	15.00	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
Gtbb:			Tons	Tons	Lbs	Lbs	Bu	Bu	Lbs	Lbs	Bu	Bu
Gotebo-----	3s	3e	2.50	---	275.00	---	23.00	---	---	---	20.00	---
HdmB:												
Hardeman-----	3e	2e	2.50	6.50	275.00	625.00	30.00	75.00	1,100.00	3,200.00	28.00	---
HdmC:												
Hardeman-----	3e	3e	2.20	---	225.00	---	25.00	---	900.00	---	22.00	---
Hfka:												
Hayfork-----	1	1	---	---	300.00	---	28.00	---	---	---	28.00	---
HksA:												
Headrick-----	3e	3e	2.00	---	275.00	---	30.00	---	1,100.00	3,100.00	25.00	---
HolA:												
Hollister-----	2s	2s	---	---	325.00	1,000.00	35.00	100.00	---	---	35.00	---
HrAC:												
Harmon-----	4s	4s	---	---	---	---	---	---	---	---	5.00	---
Aspermont-----	3e	3e	---	---	150.00	---	15.00	---	---	---	15.00	---
HSAP:												
Hardeman-----	6e	---	---	---	---	---	---	---	---	---	---	---
Southside-----	6e	---	---	---	---	---	---	---	---	---	---	---
Arnett-----	6e	---	---	---	---	---	---	---	---	---	---	---
JesC:												
Jester-----	4e	3e	---	---	---	---	---	---	---	---	12.00	---
KcRG:												
Knoco, bouldery----	7e	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
KoBE: Knoco-----	6e	---	Tons	Tons	Lbs	Lbs	Bu	Bu	Lbs	Lbs	Bu	Bu
Badland-----	8	---	---	---	---	---	---	---	---	---	---	---
KRCF: Knoco-----	6e	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---	---	---	---	---
Cottonwood-----	7s	---	---	---	---	---	---	---	---	---	---	---
LacB: La Casa-----	2e	2e	---	---	250.00	850.00	30.00	---	---	---	28.00	---
LnuA: Lincoln-----	3e	3e	1.50	---	---	---	20.00	---	900.00	2,100.00	15.00	---
LnWA: Lincoln-----	5w	---	---	---	---	---	---	---	---	---	---	---
Westola-----	5w	---	---	---	---	---	---	---	---	---	---	---
LwtA: Lawton-----	1	1	3.00	6.50	400.00	1,000.00	40.00	110.00	---	---	40.00	---
LwtB: Lawton-----	2e	2e	2.75	---	350.00	900.00	35.00	100.00	---	---	35.00	---
LwtC2: Lawton, moderately eroded-----	3e	3e	---	---	175.00	---	---	---	---	---	15.00	---
M-W: Water, Miscellaneous-----	---	---	---	---	---	---	---	---	---	---	---	---
MagB: Madge-----	2e	2e	2.80	6.00	300.00	900.00	35.00	100.00	---	---	35.00	---



# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
MdGB:			Tons	Tons	Lbs	Lbs	Bu	Bu	Lbs	Lbs	Bu	Bu
Madge-----	2e	2e	2.80	6.00	350.00	900.00	40.00	100.00	---	---	35.00	---
MknB:												
Mcknight-----	3e	2e	2.00	---	250.00	---	25.00	---	1,000.00	---	22.00	---
MktB:												
Mcknight-----	3e	3e	2.00	---	225.00	---	23.00	---	1,000.00	---	20.00	---
MktC2:												
Mcknight, moderately eroded-	4e	4e	---	---	---	---	15.00	---	---	---	15.00	---
NpsB:												
Nipsum-----	2e	2e	---	---	250.00	---	25.00	---	---	---	24.00	---
NstC:												
Nobscot-----	4e	3e	2.00	---	175.00	---	25.00	---	1,000.00	2,500.00	15.00	---
OaKA:												
Oakley-----	2e	2e	2.30	---	300.00	---	30.00	---	---	---	25.00	---
OakB:												
Oakley-----	2e	2e	2.00	---	275.00	---	25.00	---	---	---	22.00	---
OzKA:												
Ozark-----	2e	2e	3.50	6.00	375.00	900.00	40.00	100.00	1,200.00	3,500.00	35.00	---
PIT:												
Pits-----	8	---	---	---	---	---	---	---	---	---	---	---
QnTC:												
Quanah-----	3e	3e	---	---	150.00	---	20.00	---	---	---	15.00	---
Talpa:												
Talpa-----	7s	7s	---	---	---	---	---	---	---	---	---	---
QnRG:												
Quinlan-----	7e	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
RakA: Roark-----	1	1	3.50	6.50	450.00	1,000.00	45.00	110.00	---	---	40.00	---
RKBG: Rock outcrop, granite-----	8s	---	---	---	---	---	---	---	---	---	---	---
Brico-----	6e	---	---	---	---	---	---	---	---	---	---	---
RKO: Rock outcrop, granite-----	8s	---	---	---	---	---	---	---	---	---	---	---
RuuA: Rups-----	4s	---	---	---	150.00	---	15.00	---	---	---	15.00	---
RuWA: Rups-----	5w	---	---	---	---	---	---	---	---	---	---	---
SKRG: Spikebox-----	7e	---	---	---	---	---	---	---	---	---	---	---
Knoco-----	7e	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---	---	---	---	---
SpDB: Springer-----	3e	3e	2.70	---	275.00	---	30.00	---	1,100.00	2,700.00	25.00	---
Devol-----	3e	3e	2.50	---	250.00	---	25.00	---	1,100.00	2,700.00	22.00	---
SplA: Spur-----	2w	2w	3.50	6.00	400.00	1,000.00	40.00	110.00	---	---	35.00	---
SurA: Spur-----	1	1	4.20	6.50	450.00	1,000.00	45.00	110.00	---	---	40.00	---
SuuA: Spur-----	2w	2w	3.50	6.00	400.00	1,000.00	40.00	110.00	---	---	35.00	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
SuWA: Spur-----	5w	---	Tons	Tons	Lbs	Lbs	Bu	Bu	Lbs	Lbs	Bu	Bu
TARD: Talpa-----	7s	---	---	---	---	---	---	---	---	---	---	---
Aspermont-----	3e	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---	---	---	---	---
TiLA: Tillman-----	1	1	---	---	300.00	900.00	35.00	95.00	---	---	30.00	---
TiLB: Tillman-----	2e	2e	---	---	275.00	850.00	30.00	90.00	---	---	28.00	---
TipA: Tipton-----	1	1	4.00	6.50	450.00	1,000.00	45.00	110.00	---	---	40.00	---
TlVB: Tilvern-----	3s	3s	---	---	175.00	---	15.00	---	---	---	20.00	---
TpFA: Tipton-----	2e	2e	4.20	6.50	450.00	1,000.00	45.00	110.00	1,200.00	3,500.00	40.00	---
TrWB: Treadway-----	4s	---	---	---	---	---	10.00	---	---	---	10.00	---
VeKE: Vernon-----	6e	---	---	---	---	---	---	---	---	---	---	---
Knoco-----	6e	---	---	---	---	---	---	---	---	---	---	---
VerC: Vernon-----	4e	3e	---	---	125.00	---	10.00	---	---	---	13.00	---
VeTE: Vernon-----	6e	---	---	---	---	---	---	---	---	---	---	---
Talpa, stony-----	7s	---	---	---	---	---	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Cotton lint		Grain sorghum		Peanuts		Wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
W: Water-----												
WLB: Willow-----	2e	2e	2.50	---	325.00	---	33.00	---	---	---	30.00	---
WOB: Woodward-----	3s	3e	---	---	275.00	---	25.00	---	---	---	20.00	---
WOC: Woodward-----	3e	3e	---	---	250.00	---	23.00	---	---	---	15.00	---
WOQE: Woodward-----	6e	---	---	---	---	---	---	---	---	---	---	---
Quinlan-----	6e	---	---	---	---	---	---	---	---	---	---	---
WSIA: Westola-----	3e	3e	4.20	6.50	375.00	750.00	35.00	100.00	1,100.00	3,200.00	30.00	---
WstA: Westola-----	2e	2e	4.50	6.50	400.00	900.00	35.00	100.00	1,100.00	3,200.00	35.00	---
WtIA: Westill-----	2s	2s	---	---	250.00	900.00	30.00	90.00	---	---	28.00	---
WtIB: Westill-----	3e	2e	---	---	225.00	850.00	25.00	85.00	---	---	25.00	---

# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Hay and Pasture

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability		Improved bermudagrass		Introduced bluestem		Weeping lovegrass	
	N	I	N	I	N	I	N	I
			AUM	AUM	AUM	AUM	AUM	AUM
AceB: Acme-----	3e	3e	4.50	---	4.00	---	---	---
ArHF: Arnett-----	4e	---	3.50	---	3.90	---	4.00	---
Hardeman-----	6e	---	3.50	---	3.80	---	4.00	---
ArnB: Arnett-----	2e	2e	5.00	---	3.90	---	5.00	---
ArnC: Arnett-----	3e	3e	4.50	---	3.90	---	4.50	---
AsmB: Aspermont-----	3e	3e	---	---	3.20	---	---	---
AsmC: Aspermont-----	3e	3e	---	---	3.20	---	---	---
BekA: Beckman-----	4w	---	3.00	---	---	---	---	---
BfdB: Burford-----	3e	2e	3.50	---	3.20	---	---	---
BfdC: Burford-----	3e	3e	3.00	---	3.20	---	---	---
BfSC2: Burford, moderately eroded-----	3e	3e	2.50	---	3.00	---	---	---
Spikebox, moderately eroded-	4s	4s	1.50	---	2.20	---	1.00	---
BfSE: Burford-----	6e	---	2.00	---	3.00	---	---	---
Spikebox-----	6e	---	1.50	---	2.50	---	---	---
BriE: Brico-----	6e	---	---	---	---	---	---	---
BukA: Bukcreek-----	1	1	5.00	---	4.70	---	---	---
CarB: Carey-----	2e	2e	4.00	---	4.70	---	---	---
CawA: Carwile-----	5w	---	5.00	---	---	---	---	---
CVRD: Cottonwood-----	7s	---	---	---	---	---	---	---
Vinson-----	4e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Land capability		Improved bermudagrass		Introduced bluestem		Weeping lovegrass	
	N	I	N	I	N	I	N	I
			AUM	AUM	AUM	AUM	AUM	AUM
DAM: Dam-----	8	---	---	---	---	---	---	---
DeSD: Devol-----	4e	4e	4.50	---	---	---	5.00	---
Springer-----	4e	4e	4.75	---	---	---	5.00	---
DkuA: Duke-----	4w	---	3.50	---	3.00	---	---	---
DodA: Dodson-----	1	1	5.00	---	4.70	---	---	---
DodB: Dodson-----	2e	2e	5.00	---	4.70	---	---	---
EatA: Eastall-----	5w	---	4.00	---	---	---	---	---
EdsB: Eda-----	3e	3e	4.00	---	---	---	5.00	---
EdsD: Eda-----	4e	4e	3.50	---	---	---	4.50	---
EdsF: Eda-----	6e	---	---	---	---	---	3.50	---
FraB: Frankirk-----	2e	2e	5.00	---	4.70	---	---	---
FryB: Farry-----	2e	2e	5.50	---	4.70	---	---	---
GdfB: Grandfield-----	3e	2e	5.50	---	3.80	---	5.50	---
GlGB: Grandmore-----	3e	3e	6.00	---	---	---	6.00	---
Grandfield-----	3e	3e	5.50	---	---	---	6.00	---
GlsB: Grandfield-----	3e	3e	5.50	---	---	---	6.00	---
GlsD: Grandfield-----	4e	4e	5.00	---	---	---	5.50	---
GmuA: Gracemont, saline--	4w	---	5.50	---	---	---	---	---
GmwA: Gracemont, saline--	5w	---	5.50	---	---	---	---	---
GrrA: Gracemore, saline--	4w	---	5.00	---	---	---	---	---
GtbB: Gotebo-----	3s	3e	4.50	---	3.20	---	4.50	---
HdmB: Hardeman-----	3e	2e	5.00	---	3.80	---	5.50	---

# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Land capability		Improved bermudagrass		Introduced bluestem		Weeping lovegrass	
	N	I	N	I	N	I	N	I
			AUM	AUM	AUM	AUM	AUM	AUM
HdmC: Hardeman-----	3e	3e	4.50	---	3.80	---	5.00	---
HfkA: Hayfork-----	1	1	---	---	8.00	---	---	---
HksA: Headrick-----	3e	3e	6.50	---	---	---	---	---
HolA: Hollister-----	2s	2s	4.50	---	4.70	---	---	---
HrAC: Harmon-----	4s	4s	---	---	1.90	---	---	---
Aspermont-----	3e	3e	---	---	3.20	---	---	---
HSAF: Hardeman-----	6e	---	3.80	---	3.80	---	4.00	---
Southside-----	6e	---	2.00	---	---	---	2.00	---
Arnett-----	6e	---	3.50	---	3.90	---	4.00	---
JesC: Jester-----	4e	3e	3.00	---	---	---	3.50	---
KcRG: Knoco, bouldery----	7e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
KoBE: Knoco-----	6e	---	---	---	---	---	---	---
Badland-----	8	---	---	---	---	---	---	---
KRCF: Knoco-----	6e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
Cottonwood-----	7s	---	---	---	---	---	---	---
LacB: La Casa-----	2e	2e	---	---	4.10	---	---	---
LnuA: Lincoln-----	3e	3e	4.50	---	---	---	4.00	---
LnWA: Lincoln-----	5w	---	4.50	---	---	---	4.50	---
Westola-----	5w	---	7.00	---	---	---	7.00	---
LwtA: Lawton-----	1	1	5.00	---	4.70	---	---	---
LwtB: Lawton-----	2e	2e	5.00	---	4.70	---	---	---
LwtC2: Lawton, moderately eroded-----	3e	3e	3.00	---	3.80	---	---	---

# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Land capability		Improved bermudagrass		Introduced bluestem		Weeping lovegrass	
	N	I	N	I	N	I	N	I
			AUM	AUM	AUM	AUM	AUM	AUM
M-W: Water, Miscellaneous-----	8	---	---	---	---	---	---	---
MagB: Madge-----	2e	2e	5.00	---	4.70	---	---	---
MdgB: Madge-----	2e	2e	5.50	---	5.00	---	---	---
MknB: Mcknight-----	3e	2e	3.80	---	3.80	---	5.00	---
MktB: Mcknight-----	3e	3e	4.25	---	---	---	5.00	---
MktC2: Mcknight, moderately eroded-	4e	4e	3.00	---	---	---	3.50	---
NpsB: Nipsum-----	2e	2e	---	---	4.60	---	---	---
NstC: Nobscot-----	4e	3e	4.00	---	---	---	5.00	---
OakA: Oakley-----	2e	2e	4.50	---	3.30	---	---	---
OakB: Oakley-----	2e	2e	4.00	---	3.30	---	---	---
Ozka: Ozark-----	2e	2e	6.00	---	5.00	---	6.00	---
PIT: Pits-----	8	---	---	---	---	---	---	---
QhTC: Quanah-----	3e	3e	---	---	3.70	---	---	---
Talpa-----	7s	7s	---	---	2.60	---	---	---
QnRG: Quinlan-----	7e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
RakA: Roark-----	1	1	5.50	---	4.70	---	---	---
RKBG: Rock outcrop, granite-----	8s	---	---	---	---	---	---	---
Brico-----	6e	---	---	---	---	---	---	---
RKO: Rock outcrop, granite-----	8s	---	---	---	---	---	---	---
RuuA: Rups-----	4s	---	5.00	---	---	---	---	---



# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Land capability		Improved bermudagrass		Introduced bluestem		Weeping lovegrass	
	N	I	N	I	N	I	N	I
			AUM	AUM	AUM	AUM	AUM	AUM
RuwA: Rups-----	5w	---	4.00	---	---	---	---	---
SKRG: Spikebox-----	7e	---	---	---	---	---	---	---
Knoco-----	7e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
SpDB: Springer-----	3e	3e	5.25	---	---	---	5.50	---
Devol-----	3e	3e	5.00	---	---	---	5.50	---
SplA: Spur-----	2w	2w	6.00	---	8.00	---	---	---
SurA: Spur-----	1	1	6.50	---	8.00	---	---	---
SuuA: Spur-----	2w	2w	6.00	---	8.00	---	---	---
SuwA: Spur-----	5w	---	6.00	---	8.00	---	---	---
TARD: Talpa-----	7s	---	---	---	2.60	---	---	---
Aspermont-----	3e	---	---	---	3.20	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
TilA: Tillman-----	1	1	---	---	4.60	---	---	---
TilB: Tillman-----	2e	2e	3.50	---	4.60	---	---	---
TipA: Tipton-----	1	1	6.00	---	4.70	---	---	---
TlvB: Tilvern-----	3s	3s	---	---	3.90	---	---	---
TpfA: Tipton-----	2e	2e	6.50	---	5.00	---	6.00	---
TrwB: Treadway-----	4s	---	---	---	1.70	---	---	---
VeKE: Vernon-----	6e	---	---	---	2.80	---	---	---
Knoco-----	6e	---	---	---	1.80	---	---	---
VerC: Vernon-----	4e	3e	---	---	2.80	---	---	---

# Soil Survey of Greer County, Oklahoma

## Land Capability and Yields per Acre of Hay and Pasture--Continued

Map symbol and soil name	Land capability		Improved bermudagrass		Introduced bluestem		Weeping lovegrass	
	N	I	N	I	N	I	N	I
			AUM	AUM	AUM	AUM	AUM	AUM
VeTE: Vernon-----	6e	---	---	---	2.80	---	---	---
Talpa, stony-----	7s	---	---	---	2.60	---	---	---
W: Water-----	8	---	---	---	---	---	---	---
WlwB: Willow-----	2e	2e	5.00	---	4.70	---	---	---
WooB: Woodward-----	3s	3e	4.00	---	3.90	---	4.50	---
WooC: Woodward-----	3e	3e	3.50	---	3.40	---	4.00	---
WoQE: Woodward-----	6e	---	2.50	---	3.40	---	3.00	---
Quinlan-----	6e	---	1.50	---	2.50	---	1.50	---
WslA: Westola-----	3e	3e	7.00	---	5.00	---	7.50	---
WstA: Westola-----	2e	2e	7.00	---	5.00	---	7.50	---
WtlA: Westill-----	2s	2s	---	---	4.60	---	---	---
WtlB: Westill-----	3e	2e	---	---	4.60	---	---	---

## Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, rangeland, or woodland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. slopes range from 0 to 8 percent.

Soils that have a high water table, are subject to flooding, or are droughty may qualify as prime farmland where these limitations are overcome by drainage measures, flood control, or irrigation. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 172,000 acres, or about 42 percent of the survey area, meets the requirements for prime farmland. The map units in the survey area that meet the requirements for prime farmland are listed in the table, "Prime Farmland." The location of each map unit is shown on the detailed soil maps. The soil qualities that affect use and management are described in the section "Detailed Soil Map Units." This list does not constitute a recommendation for a particular land use.

# Soil Survey of Greer County, Oklahoma

## Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Soil name
ArnB	Arnett sandy loam, 1 to 3 percent slopes
ArnC	Arnett sandy loam, 3 to 5 percent slopes
AsmB	Aspermont silt loam, 1 to 3 percent slopes
AsmC	Aspermont silt loam, 3 to 5 percent slopes
BfdB	Burford loam, 1 to 3 percent slopes
BfdC	Burford loam, 3 to 5 percent slopes
BukA	Bukreek loam, 0 to 1 percent slopes
CarB	Carey loam, 1 to 3 percent slopes
DodA	Dodson loam, 0 to 1 percent slopes
DodB	Dodson loam, 1 to 3 percent slopes
FraB	Frankirk loam, 1 to 3 percent slopes
FryB	Farry loam, 1 to 3 percent slopes
GdfB	Grandfield fine sandy loam, 1 to 3 percent slopes
HdmB	Hardeman fine sandy loam, 1 to 3 percent slopes
HdmC	Hardeman fine sandy loam, 3 to 5 percent slopes
HolA	Hollister silty clay loam, 0 to 1 percent slopes
LacB	La casa silty clay loam, 1 to 3 percent slopes
LwtA	Lawton loam, 0 to 1 percent slopes
LwtB	Lawton loam, 1 to 3 percent slopes
MagB	Madge loam, 1 to 3 percent slopes
MdgB	Madge fine sandy loam, 1 to 3 percent slopes
MknB	Mcknight fine sandy loam, 1 to 3 percent slopes
NpsB	Nipsum silty clay loam, 0 to 2 percent slopes
OakA	Oakley loam, 0 to 1 percent slopes
OakB	Oakley loam, 1 to 3 percent slopes
Ozka	Ozark fine sandy loam, 0 to 1 percent slopes
QhTC	Quanah-talpa complex, 1 to 5 percent slopes
RakA	Roark loam, 0 to 1 percent slopes
SplA	Spur loam, 0 to 1 percent slopes, occasionally flooded
SurA	Spur clay loam, 0 to 1 percent slopes, rarely flooded
SuuA	Spur clay loam, 0 to 1 percent slopes, occasionally flooded
TilA	Tillman clay loam, 0 to 1 percent slopes
TilB	Tillman clay loam, 1 to 3 percent slopes
TipA	Tipton loam, 0 to 1 percent slopes
TpfA	Tipton fine sandy loam, 0 to 1 percent slopes
WlwB	Willow loam, 1 to 3 percent slopes
WooB	Woodward loam, 1 to 3 percent slopes
WooC	Woodward loam, 3 to 5 percent slopes
WslA	Westola fine sandy loam, 0 to 1 percent slopes, occasionally flooded
WstA	Westola fine sandy loam, 0 to 1 percent slopes, rarely flooded
WtlA	Westill clay loam, 0 to 1 percent slopes
WtlB	Westill clay loam, 1 to 3 percent slopes

## Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

The table, "Agricultural Waste Management, Parts I and II," shows the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Application of manure and food-processing waste* not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by

which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

*Application of sewage sludge* not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

*Disposal of wastewater by irrigation* not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

*Overland flow of wastewater* is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and

the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

*Rapid infiltration of wastewater* is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

*Slow rate treatment of wastewater* is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Somewhat limited Sodium content	0.02	Somewhat limited Sodium content	0.02	Somewhat limited Sodium content	0.02
ArHF: Arnett-----	45	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Too steep for surface application Filtering capacity	0.32 0.01
Hardeman-----	40	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Too steep for surface application	1.00
		Filtering capacity	0.01	Filtering capacity	0.01	Too steep for sprinkler application	0.15
						Filtering capacity	0.01
ArnB: Arnett-----	85	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01
ArnC: Arnett-----	83	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Too steep for surface application Filtering capacity	0.08 0.01
AsmB: Aspermont-----	80	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
AsmC: Aspermont-----	81	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement Too steep for surface application	1.00 0.08
BekA: Beckman-----	85	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Sodium content	1.00	Flooding	1.00	Sodium content	1.00
		Salinity	0.65	Sodium content	1.00	Flooding	0.60
		Flooding	0.60				
		Runoff	0.40				



# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfdB: Burford-----	90	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
BfdC: Burford-----	92	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement Too steep for surface application	1.00 0.08
BfSC2: Burford, moderately eroded-----	50	Very limited  Slow water movement	 1.00	Very limited  Slow water movement	 1.00	Very limited  Slow water movement Too steep for surface application	 1.00 0.08
Spikebox, moderately eroded-----	40	Very limited  Droughty Dense layer Depth to bedrock	 1.00 1.00 1.00	Very limited  Droughty Low adsorption Depth to bedrock	 1.00 1.00 1.00	Very limited  Droughty Depth to bedrock Too steep for surface application	 1.00 1.00 0.08
BfSE: Burford-----	50	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement Too steep for surface application	1.00 0.68
Spikebox-----	40	Very limited Droughty Dense layer Depth to bedrock  Slope	1.00 1.00 1.00  0.01	Very limited Droughty Low adsorption Depth to bedrock  Slope	1.00 1.00 1.00  0.01	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00  0.10
BriE: Brico-----	85	Somewhat limited Slow water movement  Slope  Cobble content	0.41  0.16  0.12	Somewhat limited Slow water movement  Slope  Cobble content	0.31  0.16  0.12	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Cobble content	1.00  0.40  0.31 0.12

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BukA: Bukreek-----	92	Not limited		Not limited		Not limited	
CarB: Carey-----	90	Not limited		Not limited		Not limited	
CawA: Carwile-----	90	Very limited Depth to saturated zone Slow water movement Ponding Runoff  Filtering capacity	1.00 1.00 1.00 0.40 0.01	Very limited Depth to saturated zone Slow water movement Ponding Filtering capacity	1.00 1.00 1.00 0.01	Very limited Depth to saturated zone Slow water movement Ponding Filtering capacity	1.00 1.00 1.00 0.01
CVRD: Cottonwood-----	42	Very limited Depth to bedrock Droughty Dense layer	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Low adsorption	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 0.08
Vinson-----	25	Very limited Dense layer Droughty Depth to bedrock  Slow water movement	1.00 0.65 0.65 0.65 0.41	Very limited Low adsorption Droughty Depth to bedrock  Slow water movement	1.00 0.65 0.65 0.65 0.31	Somewhat limited Droughty Depth to bedrock Slow water movement	0.65 0.65 0.31
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity Too steep for surface application	1.00 0.50
Springer-----	27	Very limited Filtering capacity Too acid	1.00 0.05	Very limited Filtering capacity Too acid	1.00 0.21	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.32 0.21
DkuA: Duke-----	80	Very limited Slow water movement Sodium content Flooding Runoff Salinity	1.00 1.00 0.60 0.40 0.13	Very limited Slow water movement Sodium content Sodium content	1.00 1.00 1.00	Very limited Slow water movement Sodium content Flooding	1.00 1.00 0.60

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DodA: Dodson-----	92	Somewhat limited Slow water movement Too acid	0.41 0.01	Somewhat limited Slow water movement Too acid	0.31 0.03	Somewhat limited Slow water movement Too acid	0.31 0.03
DodB: Dodson-----	87	Somewhat limited Slow water movement Too acid	0.41 0.01	Somewhat limited Slow water movement Too acid	0.31 0.03	Somewhat limited Slow water movement Too acid	0.31 0.03
EatA: Eastall-----	94	Very limited Slow water movement Depth to saturated zone Ponding Runoff	1.00 1.00 1.00 0.40	Very limited Slow water movement Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone Ponding	1.00 1.00 1.00
EdsB: Eda-----	87	Very limited Filtering capacity Leaching Droughty	1.00 0.45 0.27	Very limited Filtering capacity Droughty	1.00 0.27	Very limited Filtering capacity Droughty	1.00 0.27
EdsD: Eda-----	87	Very limited Filtering capacity Leaching  Droughty	1.00 0.45  0.23	Very limited Filtering capacity Droughty	1.00 0.23	Very limited Filtering capacity Too steep for surface application Droughty	1.00 0.32 0.23
EdsF: Eda-----	90	Very limited Filtering capacity Slope  Leaching  Droughty	1.00 0.63  0.45  0.36	Very limited Filtering capacity Slope  Droughty	1.00 0.63  0.36	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.78 0.36
FraB: Frankirk-----	90	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Slow water movement	0.31
FryB: Farry-----	92	Not limited		Not limited		Not limited	
GdfB: Grandfield-----	80	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GlGB: Grandmore-----	65	Very limited Filtering capacity Slow water movement Depth to saturated zone	1.00 0.41 0.01	Very limited Filtering capacity Slow water movement Depth to saturated zone	1.00 0.31 0.01	Very limited Filtering capacity Slow water movement Depth to saturated zone	1.00 0.31 0.01
Grandfield-----	25	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
GlsB: Grandfield-----	87	Very limited Filtering capacity Dense layer	1.00 1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
GlsD: Grandfield-----	87	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity Too steep for surface application	1.00 0.32
GmuA: Gracemont, saline---	90	Very limited Depth to saturated zone Flooding Salinity	1.00 0.60 0.50	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00	Very limited Depth to saturated zone Salinity Flooding	1.00 1.00 0.60
GmwA: Gracemont, saline---	89	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 0.50	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00
GrrA: Gracemore, saline---	90	Very limited Filtering capacity Depth to saturated zone Flooding Salinity Droughty	1.00 1.00 0.60 0.50 0.02	Very limited Filtering capacity Depth to saturated zone Flooding Salinity Droughty	1.00 1.00 1.00 1.00 0.02	Very limited Filtering capacity Depth to saturated zone Salinity Flooding Droughty	1.00 1.00 1.00 0.60 0.02
GtbB: Gotebo-----	82	Somewhat limited Depth to bedrock Shallow to densic materials Slow water movement Droughty	0.80 0.79 0.41 0.14	Somewhat limited Depth to bedrock Shallow to densic materials Slow water movement Droughty	0.80 0.79 0.31 0.14	Somewhat limited Depth to bedrock Slow water movement Droughty	0.80 0.31 0.14

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HdmB: Hardeman-----	90	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01
HdmC: Hardeman-----	95	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Too steep for surface application Filtering capacity	0.08 0.01
HfkA: Hayfork-----	83	Very limited Slow water movement	1.00	Very limited Slow water movement Flooding	1.00 0.40	Very limited Slow water movement	1.00
HksA: Headrick-----	90	Very limited Filtering capacity Depth to saturated zone Slow water movement	1.00 0.75 0.41	Very limited Filtering capacity Depth to saturated zone Slow water movement	1.00 0.75 0.31	Very limited Filtering capacity Depth to saturated zone Slow water movement	1.00 0.75 0.31
HolA: Hollister-----	91	Very limited Slow water movement Runoff	1.00 0.40	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
HrAC: Harmon-----	50	Very limited Depth to bedrock Droughty Dense layer Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Depth to bedrock Low adsorption	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 0.02
Aspermont-----	44	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
HSAF: Hardeman-----	50	Somewhat limited Slope Filtering capacity	0.01 0.01	Somewhat limited Slope Filtering capacity	0.01 0.01	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 0.15 0.01

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Southside-----	27	Very limited Filtering capacity Droughty	1.00 0.66	Very limited Filtering capacity Droughty	1.00 0.66	Very limited Filtering capacity Too steep for surface application Droughty Too steep for sprinkler application	1.00 1.00 0.66 0.40
Arnett-----	20	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Too steep for surface application Too steep for sprinkler application Filtering capacity	0.92 0.02 0.01
JesC: Jester-----	87	Very limited Filtering capacity Droughty Leaching	1.00 0.68 0.45	Very limited Filtering capacity Droughty	1.00 0.68	Very limited Filtering capacity Droughty	1.00 0.68
KcRG: Knoco, bouldery-----	45	Very limited Slow water movement Droughty Dense layer Shallow to densic materials Depth to bedrock	1.00 1.00 1.00 1.00 1.00	Very limited Droughty Slow water movement Shallow to densic materials Depth to bedrock Slope	1.00 1.00 1.00 1.00 1.00	Very limited Droughty Slow water movement Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE: Knoco-----	45	Very limited Slow water movement Dense layer Shallow to densic materials Depth to bedrock Droughty	1.00 1.00 1.00 1.00 1.00	Very limited Slow water movement Shallow to densic materials Depth to bedrock Droughty	1.00 1.00 1.00 1.00	Very limited Slow water movement Depth to bedrock Droughty	1.00 1.00 1.00
Badland-----	30	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KRCF:							
Knoco-----	33	Very limited Slow water movement Droughty	1.00 1.00	Very limited Droughty  Slow water movement	1.00 1.00	Very limited Droughty  Slow water movement	1.00 1.00
		Dense layer	1.00	Shallow to densic materials	1.00	Depth to bedrock	1.00
		Shallow to densic materials	1.00	Depth to bedrock	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Slope	0.16	Too steep for sprinkler application	0.40
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to bedrock Droughty Dense layer	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Low adsorption	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 1.00
		Slope	0.16	Slope	0.16	Too steep for sprinkler application	0.40
LacB:							
La Casa-----	79	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
LnuA:							
Lincoln-----	90	Very limited Filtering capacity Droughty Flooding Leaching	1.00 0.62 0.60 0.45	Very limited Filtering capacity Flooding Droughty	1.00 1.00 0.62	Very limited Filtering capacity Droughty Flooding	1.00 0.62 0.60
LnWA:							
Lincoln-----	65	Very limited Filtering capacity Flooding Droughty Leaching	1.00 1.00 0.67 0.45	Very limited Filtering capacity Flooding Droughty	1.00 1.00 0.67	Very limited Filtering capacity Flooding Droughty	1.00 1.00 0.67
Westola-----	22	Very limited Flooding Filtering capacity	1.00 0.01	Very limited Flooding Filtering capacity	1.00 0.01	Very limited Flooding Filtering capacity	1.00 0.01
LwtA:							
Lawton-----	87	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Slow water movement	0.31

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LwtB: Lawton-----	87	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Slow water movement	0.31
LwtC2: Lawton, moderately eroded-----	77	Somewhat limited  Slow water movement	0.41	Somewhat limited  Slow water movement	0.31	Somewhat limited  Slow water movement Too steep for surface application	0.31  0.18
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Not limited		Not limited		Not limited	
MdgB: Madge-----	90	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01
MknB: Mcknight-----	87	Very limited Slow water movement Filtering capacity	1.00 0.01	Very limited Slow water movement Filtering capacity	1.00 0.01	Very limited Slow water movement Filtering capacity	1.00 0.01
MktB: Mcknight-----	85	Very limited Filtering capacity Slow water movement Too acid	1.00 1.00 0.05	Very limited Filtering capacity Slow water movement Too acid	1.00 1.00 0.21	Very limited Filtering capacity Slow water movement Too acid	1.00 1.00 0.21
MktC2: Mcknight, moderately eroded-----	75	Very limited  Filtering capacity Slow water movement	1.00 1.00	Very limited  Filtering capacity Slow water movement	1.00 1.00	Very limited  Filtering capacity Slow water movement Too steep for surface application	1.00 1.00 0.08
NpsB: Nipsum-----	82	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00



# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NstC: Nobscot-----	85	Very limited Filtering capacity Leaching Too acid	1.00 0.45 0.05	Very limited Filtering capacity Too acid	1.00 0.21	Very limited Filtering capacity Too acid Too steep for surface application	1.00 0.21 0.02
OakA: Oakley-----	80	Not limited		Not limited		Not limited	
OakB: Oakley-----	85	Not limited		Not limited		Not limited	
OzKA: Ozark-----	85	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Not limited		Not limited		Not limited	
Talpa-----	20	Very limited Droughty Dense layer Depth to bedrock Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Low adsorption Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Depth to bedrock	1.00 1.00
QnRG: Quinlan-----	50	Very limited Dense layer	1.00	Very limited Shallow to densic materials	1.00	Very limited Too steep for surface application	1.00
		Shallow to densic materials	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Droughty	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00	Too steep for sprinkler application	1.00
		Slope	1.00	Slow water movement	0.31	Slow water movement	0.31
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Brico-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	0.41	Slow water movement	0.31	Too steep for sprinkler application	1.00
		Cobble content	0.12	Cobble content	0.12	Slow water movement Cobble content	0.31 0.12
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Salinity	1.00	Flooding	1.00	Slow water movement	0.72
		Slow water movement	0.85	Slow water movement	0.72	Flooding	0.60
		Flooding	0.60	Salinity	0.50	Salinity	0.50
		Sodium content	0.18	Sodium content	0.18	Sodium content	0.18
RuWA: Rups-----	82	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Salinity	1.00	Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Depth to saturated zone	0.86	Slow water movement	0.72	Slow water movement	0.72
		Slow water movement	0.85	Salinity	0.50	Salinity	0.50
		Sodium content	0.18	Sodium content	0.18	Sodium content	0.18
SKRG: Spikebox-----	40	Very limited Droughty	1.00	Very limited Droughty	1.00	Very limited Droughty	1.00
		Dense layer	1.00	Low adsorption	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Too steep for sprinkler application	1.00
Knoco-----	23	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Dense layer	1.00	Shallow to densic materials	1.00	Too steep for surface application	1.00
		Shallow to densic materials	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Droughty	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00	Too steep for sprinkler application	1.00

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Very limited Filtering capacity Too acid	1.00 0.05	Very limited Filtering capacity Too acid	1.00 0.21	Very limited Filtering capacity Too acid	1.00 0.21
Devol-----	22	Very limited Filtering capacity Too acid	1.00 0.05	Very limited Filtering capacity Too acid	1.00 0.21	Very limited Filtering capacity Too acid	1.00 0.21
SplA: Spur-----	90	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60
SurA: Spur-----	84	Not limited		Somewhat limited Flooding	0.40	Not limited	
SuuA: Spur-----	90	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60
SuwA: Spur-----	87	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
TARD: Talpa-----	46	Very limited Droughty Dense layer Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Low adsorption Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 0.02
		Runoff	0.40				
Aspermont-----	37	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Very limited Slow water movement Runoff Sodium content	1.00 0.40 0.18	Very limited Slow water movement Sodium content	1.00 0.18	Very limited Slow water movement Sodium content	1.00 0.18
TilB: Tillman-----	85	Very limited Slow water movement Runoff	1.00 0.40	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
TipA: Tipton-----	80	Not limited		Not limited		Not limited	

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TlvB: Tilvern-----	85	Very limited Slow water movement Runoff Sodium content	1.00 0.40 0.01	Very limited Slow water movement Sodium content	1.00 0.01	Very limited Slow water movement Sodium content	1.00 0.01
TpfA: Tipton-----	90	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01	Somewhat limited Filtering capacity	0.01
TrwB: Treadway-----	87	Very limited Slow water movement Runoff Salinity	1.00 0.40 0.01	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
VeKE: Vernon-----	50	Very limited Slow water movement Depth to bedrock Shallow to densic materials Droughty Runoff	1.00 0.80 0.79 0.41 0.40	Very limited Slow water movement Depth to bedrock Shallow to densic materials Droughty	1.00 0.80 0.79 0.41	Very limited Slow water movement Depth to bedrock Droughty Too steep for surface application	1.00 0.80 0.41 0.08
Knoco-----	35	Very limited Slow water movement Dense layer Shallow to densic materials Depth to bedrock Droughty	1.00 1.00 1.00 1.00 1.00	Very limited Slow water movement Shallow to densic materials Depth to bedrock Droughty	1.00 1.00 1.00 1.00	Very limited Slow water movement Depth to bedrock Droughty Too steep for surface application	1.00 1.00 1.00 0.68
VerC: Vernon-----	78	Very limited Slow water movement Runoff Depth to bedrock Shallow to densic materials Droughty	1.00 0.40 0.10 0.10 0.03	Very limited Slow water movement Depth to bedrock Shallow to densic materials Droughty	1.00 0.10 0.10 0.03	Very limited Slow water movement Depth to bedrock Too steep for surface application Droughty	1.00 0.10 0.08 0.03

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VeTE: Vernon-----	53	Very limited Slow water movement Runoff	1.00 0.40	Very limited Slow water movement Droughty	1.00 0.09	Very limited Slow water movement Too steep for surface application	1.00 0.32
		Droughty Depth to bedrock	0.09 0.01	Depth to bedrock Shallow to densic materials	0.01 0.01	Droughty Depth to bedrock	0.09 0.01
		Shallow to densic materials	0.01				
Talpa, stony-----	25	Very limited Droughty Dense layer Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Low adsorption Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 0.32
		Runoff	0.40				
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Slow water movement	0.31
WooB: Woodward-----	87	Somewhat limited Slow water movement Depth to bedrock Shallow to densic materials	0.41 0.01 0.01	Somewhat limited Slow water movement Depth to bedrock Shallow to densic materials	0.31 0.01 0.01	Somewhat limited Slow water movement Depth to bedrock	0.31 0.01
WooC: Woodward-----	90	Somewhat limited Depth to bedrock Shallow to densic materials Slow water movement Droughty	0.65 0.64 0.41 0.06	Somewhat limited Depth to bedrock Shallow to densic materials Slow water movement Droughty	0.65 0.64 0.31 0.06	Somewhat limited Depth to bedrock Slow water movement Too steep for surface application Droughty	0.65 0.31 0.08 0.06
WoQE: Woodward-----	50	Somewhat limited Depth to bedrock  Shallow to densic materials Slow water movement Droughty Slope	0.80  0.79 0.41 0.37 0.04	Somewhat limited Depth to bedrock  Shallow to densic materials Droughty Slow water movement Slope	0.80  0.79 0.37 0.31 0.04	Very limited Too steep for surface application Depth to bedrock Droughty Slow water movement Too steep for sprinkler application	1.00  0.80 0.37 0.31 0.22

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part I--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Quinlan-----	37	Very limited Dense layer	1.00	Very limited Shallow to densic materials	1.00	Very limited Depth to bedrock	1.00
		Shallow to densic materials	1.00	Depth to bedrock	1.00	Droughty	1.00
		Depth to bedrock	1.00	Droughty	1.00	Too steep for surface application	1.00
		Droughty	1.00	Slow water movement	0.31	Slow water movement	0.31
		Slow water movement	0.41	Slope	0.04	Too steep for sprinkler application	0.22
WslA: Westola-----	90	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60
		Filtering capacity	0.01	Filtering capacity	0.01	Filtering capacity	0.01
WstA: Westola-----	92	Somewhat limited Filtering capacity	0.01	Somewhat limited Flooding	0.40	Somewhat limited Filtering capacity	0.01
				Filtering capacity	0.01		
Wt1A: Westill-----	85	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Runoff	0.40				
Wt1B: Westill-----	83	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Runoff	0.40				

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Sodium content	0.02
		Too level	0.18	Slow water movement	1.00		
		Sodium content	0.02				
ArHF: Arnett-----	45	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application	0.32
				Slope	0.12	Filtering capacity	0.01
Hardeman-----	40	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Too steep for surface application	0.35	Slow water movement	0.31	Too steep for sprinkler irrigation	0.35
						Filtering capacity	0.01
ArnB: Arnett-----	85	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
ArnC: Arnett-----	83	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application	0.08
						Filtering capacity	0.01
AsmB: Aspermont-----	80	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.39	Depth to bedrock	1.00	Depth to bedrock	0.39
AsmC: Aspermont-----	81	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.42	Depth to bedrock	1.00	Depth to bedrock	0.42
						Too steep for surface application	0.08

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BekA: Beckman-----	85	Very limited Flooding	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Sodium content	1.00	Depth to saturated zone	1.00	Sodium content	1.00
		Too level	0.50	Flooding	0.60	Flooding	0.60
BfdB: Burford-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.94	Depth to bedrock	1.00	Depth to bedrock	0.94
BfdC: Burford-----	92	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Too steep for surface application	0.08
BfSC2: Burford, moderately eroded-----	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Slow water movement	1.00	Slow water movement	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Too steep for surface application	0.08
Spikebox, moderately eroded-----	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	0.08
BfSE: Burford-----	50	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.02	Depth to bedrock	1.00	Too steep for surface application	0.68
				Slope	0.50	Depth to bedrock	0.02
Spikebox-----	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for surface application	0.22	Slope	1.00	Too steep for sprinkler irrigation	0.22



# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BriE: Brico-----	85	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Too steep for surface application	1.00
		Cobble content	1.00	Slope	1.00	Too steep for sprinkler irrigation	0.78
		Too steep for surface application	0.78	Cobble content	1.00	Slow water movement	0.21
						Cobble content	0.12
BukA: Bukreek-----	92	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
		Too level	0.50				
CarB: Carey-----	90	Very limited Seepage	1.00	Very limited Slow water movement Depth to bedrock	1.00	Not limited	
CawA: Carwile-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Slow water movement	0.96
		Too level	0.50			Filtering capacity	0.01
CVRD: Cottonwood-----	42	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	0.08
Vinson-----	25	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slow water movement	0.21
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Very limited Seepage	1.00	Somewhat limited Slow water movement Slope	0.31 0.28	Very limited Filtering capacity Too steep for surface application	1.00 0.50

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Springer-----	27	Very limited Seepage	1.00	Somewhat limited Slow water movement	0.96	Very limited Filtering capacity	1.00
		Too acid	0.21	Slope	0.12	Too steep for surface application	0.32
						Too acid	0.21
DkuA: Duke-----	80	Very limited Flooding	1.00	Very limited Slow water movement	1.00	Very limited Sodium content	1.00
		Sodium content	1.00	Flooding	0.60	Slow water movement	1.00
		Too level	0.50			Flooding	0.60
		Seepage	0.39				
DodA: Dodson-----	92	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
		Too level	0.50			Too acid	0.03
		Too acid	0.03				
DodB: Dodson-----	87	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
		Too acid	0.03			Too acid	0.03
EatA: Eastall-----	94	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Slow water movement	1.00
		Too level	0.92	Ponding	1.00	Ponding	1.00
EdsB: Eda-----	87	Very limited Seepage	1.00	Not limited		Very limited Filtering capacity	1.00
EdsD: Eda-----	87	Very limited Seepage	1.00	Somewhat limited Slope	0.12	Very limited Filtering capacity	1.00
						Too steep for surface application	0.32
EdsF: Eda-----	90	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Filtering capacity	1.00
		Too steep for surface application	1.00			Too steep for surface application	1.00
						Too steep for sprinkler irrigation	1.00

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FraB: Frankirk-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
FryB: Farry-----	92	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
GdfB: Grandfield-----	80	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
GlGB: Grandmore-----	65	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.01	Slow water movement	0.21
						Depth to saturated zone	0.01
Grandfield-----	25	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
GlsB: Grandfield-----	87	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
GlsD: Grandfield-----	87	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
				Slope	0.12	Too steep for surface application	0.32
GmuA: Gracemont, saline---	90	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Seepage	1.00	Slow water movement	0.61	Salinity	1.00
		Depth to saturated zone	1.00	Flooding	0.60	Flooding	0.60
		Too level Salinity	0.50 0.13				
GmwA: Gracemont, saline---	89	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Seepage	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Slow water movement	0.61	Salinity	1.00
		Too level Salinity	0.50 0.13				

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GrrA: Gracemore, saline---	90	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Filtering capacity	1.00
		Seepage	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.60	Salinity	1.00
		Too level	0.50			Flooding	0.60
		Salinity	0.13			Sodium content	0.02
GtbB: Gotebo-----	82	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slow water movement	0.21
HdmB: Hardeman-----	90	Very limited Seepage	1.00	Somewhat limited Slow water movement	0.31	Somewhat limited Filtering capacity	0.01
HdmC: Hardeman-----	95	Very limited Seepage	1.00	Somewhat limited Slow water movement	0.31	Somewhat limited Too steep for surface application	0.08
						Filtering capacity	0.01
HfkA: Hayfork-----	83	Somewhat limited Seepage	0.69	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.96
		Too level	0.50				
		Flooding	0.40				
HksA: Headrick-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
		Depth to saturated zone	0.75	Depth to saturated zone	0.76	Depth to saturated zone	0.75
		Too level	0.50			Slow water movement	0.21
HolA: Hollister-----	91	Somewhat limited Too level	0.50	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Seepage	0.39				
HrAC: Harmon-----	50	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	0.02

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Aspermont-----	44	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.42	Depth to bedrock	1.00	Depth to bedrock	0.42
HSAF: Hardeman-----	50	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Too steep for surface application	0.35	Slow water movement	0.31	Too steep for sprinkler irrigation	0.35
						Filtering capacity	0.01
Southside-----	27	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Filtering capacity	1.00
		Too steep for surface application	0.78	Slow water movement	0.31	Too steep for surface application	1.00
						Too steep for sprinkler irrigation	0.78
Arnett-----	20	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application	0.92
		Too steep for surface application	0.06	Slope	0.88	Too steep for sprinkler irrigation	0.06
						Filtering capacity	0.01
JesC: Jester-----	87	Very limited Seepage	1.00	Not limited		Very limited Filtering capacity	1.00
KcRG: Knoco, bouldery----	45	Very limited Depth to bedrock	1.00	Very limited Slope	1.00	Very limited Depth to bedrock	1.00
		Too steep for surface application	1.00	Slow water movement	1.00	Too steep for surface application	1.00
				Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
						Slow water movement	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE: Knoco-----	45	Very limited Depth to bedrock	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
				Depth to bedrock	1.00	Slow water movement	1.00

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Very limited Depth to bedrock	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Too steep for surface application	0.78	Depth to bedrock	1.00	Slow water movement	1.00
				Slope	1.00	Too steep for surface application	1.00
						Too steep for sprinkler irrigation	0.78
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for surface application	0.78	Slope	1.00	Too steep for sprinkler irrigation	0.78
LacB: La Casa-----	79	Somewhat limited Seepage	0.69	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.96
LnuA: Lincoln-----	90	Very limited Flooding	1.00	Somewhat limited Flooding	0.60	Very limited Filtering capacity	1.00
		Seepage	1.00			Flooding	0.60
		Too level	0.50				
LnWA: Lincoln-----	65	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Filtering capacity	1.00
		Seepage	1.00			Flooding	1.00
		Too level	0.50				
Westola-----	22	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Seepage	1.00	Slow water movement	0.31	Filtering capacity	0.01
		Too level	0.50				
LwtA: Lawton-----	87	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
		Too level	0.50				

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LwtB: Lawton-----	87	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
LwtC2: Lawton, moderately eroded-----	77	Very limited  Seepage	 1.00	Very limited  Slow water movement Slope	 1.00 0.03	Somewhat limited  Slow water movement Too steep for surface application	 0.21 0.18
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
MdgB: Madge-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
MknB: Mcknight-----	87	Very limited Seepage  Depth to bedrock	1.00  0.18	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Slow water movement Depth to bedrock Filtering capacity	1.00 0.18 0.01
MktB: Mcknight-----	85	Very limited Seepage  Depth to bedrock  Too acid	1.00  0.23 0.21	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Filtering capacity Slow water movement Depth to bedrock Too acid	1.00 1.00 0.23 0.21
MktC2: Mcknight, moderately eroded-----	75	Very limited  Seepage  Depth to bedrock	 1.00 0.32	Very limited  Slow water movement Depth to bedrock	 1.00 1.00	Very limited  Filtering capacity Slow water movement Depth to bedrock Too steep for surface application	 1.00 1.00 0.32 0.08
NpsB: Nipsum-----	82	Somewhat limited Seepage	0.04	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.96

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NstC: Nobscot-----	85	Very limited Seepage	1.00	Somewhat limited Slow water movement	0.31	Very limited Filtering capacity	1.00
		Too acid	0.21			Too acid	0.21
						Too steep for surface application	0.02
OakA: Oakley-----	80	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
		Too level	0.50				
OakB: Oakley-----	85	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
OzKA: Ozark-----	85	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
		Too level	0.50				
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
Talpa-----	20	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00		
QnRG: Quinlan-----	50	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
						Slow water movement	0.21
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.96
		Too level	0.50				



# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Too steep for surface application	1.00	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
		Cobble content	1.00	Cobble content	1.00	Slow water movement	0.21
						Cobble content	0.12
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Very limited Flooding	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Seepage	1.00	Flooding	0.60	Slow water movement	0.54
		Too level	0.50			Salinity	0.50
		Sodium content	0.18			Sodium content	0.18
RuWA: Rups-----	82	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Seepage	1.00	Slow water movement	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	0.86	Depth to saturated zone	1.00	Slow water movement	0.54
		Too level	0.50			Salinity	0.50
		Sodium content	0.18			Sodium content	0.18
SKRG: Spikebox-----	40	Very limited Seepage	1.00	Very limited Slope	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Knoco-----	23	Very limited Depth to bedrock	1.00	Very limited Slope	1.00	Very limited Depth to bedrock	1.00
		Too steep for surface application	1.00	Slow water movement	1.00	Too steep for surface application	1.00
				Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
						Slow water movement	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SpDB: Springer-----	70	Very limited Seepage	1.00	Somewhat limited Slow water movement	0.96	Very limited Filtering capacity Too acid	1.00
		Too acid	0.21				0.21
Devol-----	22	Very limited Seepage	1.00	Somewhat limited Slow water movement	0.31	Very limited Filtering capacity Too acid	1.00
		Too acid	0.21				0.21
SplA: Spur-----	90	Very limited Flooding	1.00	Very limited Slow water movement	1.00	Somewhat limited Flooding	0.60
		Seepage	1.00	Flooding	0.60		
		Too level	0.50				
SurA: Spur-----	84	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
		Too level	0.50				
		Flooding	0.40				
SuuA: Spur-----	90	Very limited Flooding	1.00	Very limited Slow water movement	1.00	Somewhat limited Flooding	0.60
		Seepage	1.00	Flooding	0.60		
		Too level	0.50				
SuWA: Spur-----	87	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Seepage	1.00	Slow water movement	1.00		
		Too level	0.50				
TARD: Talpa-----	46	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	0.02
Aspermont-----	37	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.96	Depth to bedrock	1.00	Depth to bedrock	0.96
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Somewhat limited Seepage	0.69	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.99
		Sodium content	0.18			Sodium content	0.18
		Too level	0.08				
TilB: Tillman-----	85	Somewhat limited Seepage	0.69	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.96

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TipA: Tipton-----	80	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Not limited	
		Too level	0.50				
TlvB: Tilvern-----	85	Somewhat limited Seepage	0.69	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Depth to bedrock	0.32	Depth to bedrock	1.00	Depth to bedrock	0.32
		Sodium content	0.01			Sodium content	0.01
TpfA: Tipton-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
		Too level	0.50				
TrwB: Treadway-----	87	Not limited		Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
VeKE: Vernon-----	50	Very limited Depth to bedrock	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
				Depth to bedrock	1.00	Depth to bedrock	1.00
						Too steep for surface application	0.08
Knoco-----	35	Very limited Depth to bedrock	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
				Depth to bedrock	1.00	Slow water movement	1.00
				Slope	0.50	Too steep for surface application	0.68
VerC: Vernon-----	78	Very limited Depth to bedrock	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
				Depth to bedrock	1.00	Depth to bedrock	1.00
						Too steep for surface application	0.08
VeTE: Vernon-----	53	Very limited Depth to bedrock	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
				Depth to bedrock	1.00	Depth to bedrock	1.00
				Slope	0.12	Too steep for surface application	0.32
Talpa, stony-----	25	Very limited Seepage	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Slow water movement	1.00	Too steep for surface application	0.32
				Slope	0.12		

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
		Depth to bedrock	0.14	Depth to bedrock	1.00	Depth to bedrock	0.14
WooB: Woodward-----	87	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slow water movement	0.21
WooC: Woodward-----	90	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slow water movement	0.21
						Too steep for surface application	0.08
WoQE: Woodward-----	50	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep for surface application	1.00
		Too steep for surface application	0.50	Slope	1.00	Too steep for sprinkler irrigation	0.50
						Slow water movement	0.21
Quinlan-----	37	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too steep for surface application	1.00
		Too steep for surface application	0.50	Slope	1.00	Too steep for sprinkler irrigation	0.50
						Slow water movement	0.21
WslA: Westola-----	90	Very limited Flooding	1.00	Somewhat limited Flooding	0.60	Somewhat limited Flooding	0.60
		Seepage	1.00	Slow water movement	0.31	Filtering capacity	0.01
		Too level	0.50				

# Soil Survey of Greer County, Oklahoma

## Agricultural Waste Management, Part II--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WstA: Westola-----	92	Very limited Seepage	1.00	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
		Too level Flooding	0.50 0.40				
WtlA: Westill-----	85	Somewhat limited Seepage	0.69	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Too level	0.50	Depth to bedrock	1.00		
WtlB: Westill-----	83	Somewhat limited Seepage	0.69	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Slow water movement	1.00

## Rangeland

Mark Moseley, Range Conservationist, Natural Resources Conservation Service, Stillwater, Oklahoma, helped prepare this section.

Range and native pasture provide forage for livestock in the survey area.

*Range* is defined as land on which the native vegetation (the climax, or natural potential, plant community) is predominantly grasses, grasslike plants, forbs, and shrubs suitable for grazing and browsing. Range includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain shrub and forb communities. Range receives no regular or frequent cultural treatment. The composition and production of the plant community are determined by soil, climate, topography, overstory canopy, and grazing management.

*Native pasture* is defined as land on which the potential (climax) vegetation is forest but which is used and managed primarily for the production of native forage plants. Native pasture includes cutover forestland and forestland that has been cleared and is managed for native or naturalized forage plants.

Rangeland makes up about 40 percent of the land in Greer County. There has been a recent trend to reseed many areas of marginal cropland with a mixture of native grass species. The range is used primarily for grazing by domestic cattle; however, its importance as wildlife habitat is becoming increasingly important as more landowners lease the hunting rights on their range as an additional source of income.

The rangeland in Greer County originally produced a wide variety of tall and mid-sized grasses interspersed with an abundance of forbs that evolved under the collective influence of ungulate grazing, fire, variable climatic events, insects, and rodents and other wildlife. Effective range management practices that mimic the historical management can help to maintain or re-establish these high quality plants.

Four types of rangeland exist in Greer County. The first type is in the east central and southeastern parts of the county where the soils formed in very deep, loamy, alluvial sediments. This area is typified by broad flats and gently sloping and sloping uplands. The soils support predominantly tall grasses, and potential productivity is high. The second type is in the northeastern and southern parts of the county along areas parallel to the North Fork of the Red River and the Salt Fork of the Red River. In these areas the soils formed in deep, sandy and loamy sediments. Hummocky sand dunes and flat depressions typify these areas, and wind erosion is a hazard if adequate cover is not maintained on the surface of the soil. Soils in these areas support tall and mid grasses with scattered woody shrubs, and potential productivity is moderate. The third type is in the central and northwestern parts of the county. The soils are loamy and are shallow to very deep over sandstone or alluvial sediment. These areas are typified by rolling hills and a few flat-topped ridges and canyons. The soils support a mixture of tall, mid, and short grasses, and potential productivity is moderate to high. The fourth type is in the south central and western parts of the county where the soils are loamy or clayey and are shallow to moderately deep over gypsum or shale. This area is typified by steep escarpments and gently sloping to sloping uplands. The soils support short and mid grasses. Potential productivity is low because of the shallow root zones.

Approximately 75 percent of the annual production of forage occurs from April through July following the rains in spring and early summer. A second, smaller growth period may occur in the fall if sufficient moisture is available.

The table, "Rangeland Productivity and Characteristic Plant Communities," shows for each soil the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. Only those soils that are used as rangeland or are suited to use as rangeland are listed. Explanation of the column headings in this table follows.

An *ecological site* for rangeland is a distinctive kind of land and vegetation with specific physical characteristics that make it different from other kinds of land in its ability to produce a distinctive kind and amount of vegetation.

Many different ecological sites are in the survey area. Over time, the combination of plants best suited to a particular soil and climate has become dominant. If the soil is not excessively disturbed, this group of plants is the natural plant community for the site. Natural plant communities are not static but vary slightly from year to year and place to place.

The relationship between soils and vegetation was ascertained during this survey; thus, ecological sites generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of range plants. Soil reaction, salt content, and a seasonal high water table are also important. The "Field Office Technical Guide," which is available at the local office of the Natural Resources Conservation Service and online the internet at <http://www.nrcs.usda.gov/technical/efotg/> can provide specific information about ecological sites.

*Total dry-weight production* is the amount of vegetation that can be expected to grow annually on well-managed range that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruit of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperature make growing conditions substantially better than average. In a normal year, growing conditions are near the historical monthly average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Figure 18 shows a typical growth curve that represents the percentage of total growth that occurs each month for native vegetation and other forage.

Dry weight is the total annual yield per acre. Yields are adjusted to a common percent of air-dry moisture content. The relationship of green weight to air-dry weight varies according to such factors as stage of maturity, exposure, amount of shade, recent rains, and unseasonable dry periods.

*Characteristic vegetation* consists of the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil. The plants are listed by common name. Rangeland composition lists the anticipated percentage of the total annual production for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

## Similarity Index

The similarity index indicates on a percentage basis the extent to which the present plant community resembles a specified vegetative state on an ecological site. NRCS uses similarity index two ways.

The first use compares the present vegetation on an ecological site to the presumed historic vegetation for that site. A similarity index of 70 would suggest that the present plant community contains 70 percent of the presumed historic plant community for that site. This comparison provides a basis for examining the extent and direction of changes that have taken place between current vegetation and historic vegetation.

The second use measures how near the current plant community is to the landowners goal for the land. The management goal for rangeland is not necessarily a similarity index of 100 as compared to the historic plant community. Therefore, the similarity index can represent the percentage of the plant community that resembles a desired plant community.

## Soil Survey of Greer County, Oklahoma

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
IMPROVED BERMUDAGRASS				5	25	35	20	10	5			
WEeping LOVEGRASS			3	20	25	20	15	6	11			
INTRODUCED BLUESTEM				3	15	26	22	18	10	1		
SMALL GRAIN GRAZEOUT	3	9	29	27	18				1	4	6	3
FORAGE SORGHUM						14	33	33	20			
NATIVE GRASS	1	1	2	10	20	27	16	8	5	2	2	1

**Figure 18.—Typical growth curves for various kinds of forage in Greer County. The growth curve for each kind of forage indicates the percentage of the total annual growth that occurs each month.**

Abnormal disturbances that can change the natural plant community include repeated overuse by livestock, excessive burning, erosion, and cultivation. Grazing animals select the most palatable plants. These plants eventually die if they are continually grazed at a severity that does not allow for recovery. A very severe disturbance can completely destroy the natural community. Under such conditions, the abundance of less desirable plants, such as annuals and weed-like plants, can increase. If the plant community and the soils have not deteriorated significantly and proper range management is applied, the site eventually can return to predominantly natural plants.

Knowledge of the ecological site is necessary as a basis for planning and applying the management needed to maintain or improve the desired plant community for selected uses. Such information is needed to support management objectives, planned grazing systems, stocking rates, and wildlife management practices; to improve the potential of an area for recreational uses; and to improve the condition of watersheds.

### Rangeland Management

Rangeland management requires knowledge of the kind of soils and of the potential natural plant community. It also requires an evaluation of the similarity index.

Effective range management conserves rainfall, enhances water quality, reduces the hazard of downstream Flooding, improves yields, provides forage for livestock and wildlife, enhances recreational opportunities, and protects the soil. The main management concern is recognizing important changes in the plant cover or the range trend. These changes takes place gradually and can be overlooked.

Each range manager should evaluate the type of plant community that best supports the ranch and then apply management and ecological principles to achieve the goals. The desired plant community should be within the capabilities of the land.

The range management practices used in Greer County include proper grazing use, deferred grazing, and planned grazing systems. They also include properly located stock-water developments and fences and a planned distribution of salt and feed. If undesirable plants become dominant, range seeding, brush management, or prescribed burning should be considered.



A pasture program is needed to provide the desired amount of forage during each month of the year. A study of the growth habits of the different plants is necessary to ensure adequate forage during each month. The months that various kinds of forage plants grow are indicated in figure 18. The percent growth that can be safely grazed each month without substantially reducing the total yield for each kind of plant is illustrated.

Range management includes four major considerations:

*Grazing distribution* which is achieved by managing livestock to graze all parts of the grazing unit equally.

*Selective grazing* which occurs because animals graze preferred plants to balance their diets. If selective grazing occurs repeatedly, the preferred plants are damaged.

*Proper stocking rates* which are achieved by balancing animal numbers with forage production.

*Rest periods*, during which grazed plants are given enough rest to recover and to maintain growth.

It is important to remember that forage production is controlled by rainfall while composition is determined by grazing management.

The setting of stocking rates is not an exact science because there are influences from grazing management, season of use, mix of livestock, and seasonal forage production. Some general rules, however, can be helpful. To maintain a nutritional cover of plants, about 50 percent of the annual growth of the most important grazing plants should remain at the end of the grazing season. Plants can be removed not only through grazing by livestock but also through grazing by rodents, insects, and wildlife and through deterioration caused by climatic variations. Because of these factors, a safe initial stocking rate should be calculated on the basis of 25 percent of the total annual growth, by weight, of the vegetation.

For example, production could be 2,800 pounds of air-dry grasses, forbs, and woody species for an average season on a Loamy Prairie ecological site with a similarity index above 70 to the historic plant community. Twenty-five percent of this production would be 700 pounds.

A 1,000-pound cow and her calf is equivalent to one animal unit (AU) and consume about 2.6 percent of her body weight (26 pounds) of forage per day. Therefore, in 1 month an animal unit would consume 790 pounds of native vegetation, depending on the quality and stage of growth of the plants (26 pounds per day times 365 days per year divided by 12 months per year).

Dividing 700 pounds (the forage allocation) by 26 pounds (the forage required per day for 1 animal unit) suggests that 1 acre of Loamy Prairie ecological site with a similarity index of 70 would feed one cow and calf for 27 days. To convert forage available from 1 acre to animal unit months (AUM), the available forage (700 pounds) is divided by the amount required to feed 1 animal unit for 1 month (790 pounds). One acre would provide 0.88 AUM of grazing. Therefore, 14 acres would feed one cow and calf for 12 months.

Another approach is to calculate the annual forage needs of an animal unit (790 pounds times 12 months equals 9,480 pounds). Dividing the 700 pounds of usable forage per acre into the 9,480 pounds needed by the cow and calf reveals that approximately 14 acres would be needed for one cow and calf annually. Stocking rate calculations should be adjusted for animal size, grazing system, and grazing season.

More information about planning a grazing program is available from the local office of the Natural Resources Conservation Service.

## Ecological Site Descriptions

Forty ecological sites are recognized in Greer County. The ecological site identifier has eleven characters. The "R" indicates an ecological site. The next four characters identify the major land resource area, the sixth character identifies the major land resource unit subdivision, the next three characters identify the individual ecological site number, and the final two characters identify the State. The ecological site identifier is followed by the proper name for the ecological site. The following paragraphs

describe the ecological sites in Greer County and list the plants that are characteristic of each site. Detailed ecological site descriptions are available at the local office of the Natural Resources Conservation Service.

**R078BY070TX, Clayey Bottomland PE 25-36.** This site is in areas of nearly level soils on flood plains along major streams. The runoff rate is high. The historic climax vegetation includes vine mesquite, buffalograss, sideoats grama, blue grama, white tridens, alkali sacaton, Canada wildrye, bristleggrass, threeawn species, sand dropseed, fall witchgrass, Texas wintergrass, western wheatgrass, and sedges. Forbs include asters, croton species, gaillardia, false gaura, rushpea, skeletonplant, Texas nightshade, verbena, and western ragweed. Shrubs and vines include lotebush, jointfir, and Berlandier wolfberry. Trees include willow, mesquite, and hackberry.

**R078BY071TX, Clay Flat PE 25-36.** This site is on broad, alluvial plains or filled valleys. The historic climax vegetation includes tobosagrass, alkali sacaton, blue grama, buffalograss, white tridens, vine mesquite, dropseed, sand dropseed, Texas wintergrass, and little barley. Forbs include Texas croton, snow on the mountain, scarlet false gaura, curlycup gumweed, Indian rushpea, upright prairie coneflower, scarlet globemallow, and Baldwin's ironweed. Shrubs include lotebush, Berlandier wolfberry, cholla, pricklypear, four-wing saltbush, and saltbush. Trees include hackberry.

**R078BY072TX, Clay Loam PE 25-36.** This site is dominantly on nearly level to gently sloping upland plains, upland terraces, and broad divides. In places, it is in broad upland valleys. The historic climax vegetation includes blue grama, buffalograss, vine mesquite, curly-mesquite, sideoats grama, and tobosagrass. Forbs include western ragweed, white heath aster, Engelmann daisy, scarlet false gaura, and dotted gayfeather. Legumes include beebalm, slimflower scurfpea, upright prairie, and coneflower. Shrubs are only in a few areas but include pricklypear, lotebush, and Berlandier wolfberry. Trees include hackberry and honey mesquite.

**R078BY076TX, Gyp PE 25-36.** This site is on ridges, knobs, hilltops, and benches within the redbed geologic formations of the western rolling plains. The historic climax vegetation includes little bluestem, sideoats grama, Wright threeawn, sand dropseed, hairy grama, blue grama, tobosagrass, silver bluestem, Arizona cottontop, vine mesquite, bristleggrass species, and slim tridens. Also, big bluestem and indiagrass are on some of the sites that have more soil material. Forbs include gyp bluecurls, halfshrub sundrop, skullcap, longleaf buckwheat, gray goldenaster, and dotted gayfeather. Shrubs include fourwing saltbush, jointfir species, featherplume, yucca, skunkbush sumac, Berlandier wolfberry, plains pricklypear, small soapweed, and lotebush.

**R078BY078TX, Lakebed PE 25-36.** This site is on nearly level alluvial plains, in slightly depressed playas, or in waterways in the lower positions on the landscape. The historic climax vegetation includes vine mesquite, buffalograss, blue grama, white tridens, cane bluestem, western wheatgrass, sedges, flatsedge, spikerush, and bulrush. Forbs include arrowhead, cutleaf evening-primrose, dalea, cattail, goosefoot, knotweed, lambsquarters, plains coreopsis, plains ironweed, pondweed, bursage, sawtooth fogfruit, silverleaf nightshade, and snow on the mountain. Shrubs include buttonbush. Trees include willow.

**R078BY079TX, Loamy PE 25-36.** This site is in areas of gently sloping to moderately sloping soils on uplands. The historic climax vegetation includes sideoats grama, little bluestem, indiagrass, little bluestem, sand bluestem, blue grama, buffalograss, switchgrass, and tall dropseed. Forbs include dotted gayfeather, Engelmann daisy, halfshrub sundrop, broom snakeweed, heath aster, verbena, and catclaw sensitive-brier. Semiwoody species include yucca.

**R078BY080TX, Loamy Bottomland PE 25-36.** This site is on bottomlands on flood plains or stream terraces along major streams. The historic climax vegetation includes switchgrass, indiagrass, sideoats grama, sand bluestem, western wheatgrass, Canada wildrye, vine mesquite, silver bluestem, blue grama, inland saltgrass, buffalograss, tumble windmill grass, creeping muhly, white tridens, prairie cordgrass, alkali sacaton,

and eastern gamagrass. Forbs include Illinois bundleflower, Maximilian sunflower, western ragweed, Mexican white sage, white heath aster, Engelmann daisy, snow on the mountain, false gaura species, scurfpea, and Baldwin's ironweed. Shrubs include fragrant sumac, leadplant, indigobush, saltwater false willow, and sand plum. Trees include eastern cottonwood, hackberry, black willow, and western soapberry.

**R078BY081TX, Loamy Prairie PE 25-36.** This site is on rolling uplands that have moderate to steep slopes. The convex ridgetops support mid grasses, short grasses, some forbs, and a few shrubs. The draw bottoms support tall grasses. The historic climax vegetation includes little bluestem, indiangrass, switchgrass, sand bluestem, sideoats grama, blue grama, Canada wildrye, Texas bluegrass, Wright's threeawn, hairy grama, silver bluestem, hooded windmill grass, and dropseed species. Forbs include western ragweed, Mexican white sage, Engelmann daisy, false gaura species, scurfpea, halfshrub sundrop, purple prairie clover, annual wild buckwheat, ratany, dotted gayfeather, catclaw sensitive-briar, Fendler's penstemon, white milkwort, Drummond's skullcap, and stiff green thread. Shrubs include leadplant, sand sagebrush, vine jointfir, mimosa, skunkbush, and small soapweed.

**R078BY088TX, Sandy Loam PE 25-36.** This site is on moderately sloping terrace pediments on uplands. The historic climax vegetation includes sideoats grama, little bluestem, blue grama, sand bluestem, indiangrass, vine mesquite, sand dropseed, hooded windmill grass, buffalograss, bristleglass species, sand dropseed, Canada wildrye, Texas bluegrass, silver bluestem, tall dropseed, purple threeawn, signalgrass, and gummy lovegrass. Forbs include catclaw sensitive-briar, Engelmann daisy, prairie acacia, rushpea species, scarlet gaura, western ragweed, scarlet globemallow, halfshrub sundrop, dotted gayfeather, Mexican white sage, purple prairie clover, annual fleabane, Maximilian sunflower, false goldenaster, ratany, Fendler's penstemon, slimflower scurfpea, and blue sage. Shrubs include sand sagebrush, yucca, fragrant mimosa, honey mesquite, sand plum, small soapweed, and lotebush. Trees include hackberry and western soapberry.

**R078BY090TX, Shallow Clay PE 25-36.** This site is in areas of gently sloping to moderately sloping soils on uplands. The historic climax vegetation includes blue grama, sideoats grama, buffalograss, little bluestem, tobosagrass, big bluestem, indiangrass, slim tridens, sand dropseed, purple threeawn, hairy grama, silver bluestem, tumble windmill grass, ear muhly, Hall panicum, vine mesquite, bristleglass, foxtail barley, and western wheatgrass. Forbs include Engelmann daisy, western ragweed, halfshrub sundrop, rose heath, dotted gayfeather, false goldenaster, ratany, rosering gaillardia, broom snakeweed, slimflower scurfpea, Drummond's skullcap, scarlet globemallow, stiff green thread, and zinnia. Shrubs include lotebush, fourwing saltbush, jointfir species, Berlandier wolfberry, plains pricklypear, and honey mesquite. Trees include hackberry and redberry juniper.

**R078BY091TX, Very Shallow PE 25-36.** This site is on ridges, hills, and erosional slopes and in areas along escarpments. The historic climax vegetation includes little bluestem, sideoats grama, black grama, hairy grama, blue grama, big bluestem, indiangrass, sand dropseed, slim tridens, silver bluestem, and hairy tridens. Forbs include dotted gayfeather, ratany, halfshrub sundrop, Mexican white sage, rose heath, Texas croton, black samson, spurge, sand lily, Lambert's crazyweed, slimflower scurfpea, stemmy four-nerve daisy, catnip noseburn, zinnia, featherplume, mimosa, plains pricklypear, and small soapweed. Trees include redberry juniper and shrubby hackberry.

**R078BY092TX, Very Shallow Clay PE 25-36.** This site is on ridges, side slopes, and foot slopes in the uplands. The historic climax vegetation includes sideoats grama, buffalograss, curly mesquite, blue grama, silver bluestem, alkali sacaton, sand dropseed, bristleglass, vine mesquite, plains lovegrass, tall dropseed, meadow dropseed, threeawn species, hairy grama, fall witchgrass, tumble windmill grass, ear muhly, and slim tridens. Forbs include broom snakeweed, dotted gayfeather, Engelmann daisy, globemallow

species, gray goldenaster species, halfshrub sundrop, Indian rushpea, Mexican white sagewort, zinnia, slimflower scurfpea, ratany, and western ragweed. Shrubs and vines include Condalia species, fourwing saltbush, jointfir species, lotebush, plains pricklypear, tasajillo, and Berlandier wolfberry.

**R078BY692TX, Rocky Hill PE 25-36.** This site is in areas of stony, calcareous clays and shaley soils on steep hillsides. The historic climax vegetation includes little bluestem, sand bluestems, indiangrass, sideoats grama, Canada wildrye, vine mesquite, Texas wintergrass, tall dropseed, buffalograss, heath aster, bush sunflower, gayfeather, and daleas. Woody species include bumelia, hackberry, elm, skunkbush, sumacs, mesquite, tasajillo, lotebush, and pricklypear.

**R078CY005OK, Loamy Breaks PE 32-44.** This site is on bluffs or escarpments that have excessive drainage. The historic climax vegetation includes little bluestem, sideoats grama, blue grama, hairy grama, Scribner panicum, indiangrass, buffalograss, switchgrass, western wheatgrass, and dropseed species. Forbs include bigtop dalea, blacksamson, false gaura, goldenrod, cream milkvetch, dotted gayfeather, catclaw sensitive-briar, Illinois bundleflower, and heath aster. Shrubs include leadplant, ceanothus, grape, pricklypear, skunkbush, and plum.

**R078CY006OK Clayey Breaks PE 32-44.** These sites are escarpments and rough canyon like areas of redbeds that have narrow valley drainageways. These sites greatly restrict livestock travel. Historic climax grasses included little bluestem, sand bluestem, and sideoats grama. Forbs included Louisiana sagewort, nailwort, bluets, and compassplant. Legumes included catclaw sensitivebriar, Illinois bundleflower, prairieclover, and dalea species. Principal woody species was skunkbush.

**R078CY017OK, Deep Sand Savannah (West) PE 32-44.** This site is in rolling to dunelike areas. The soils are very deep, well drained, and sandy. This site has an overstory of oak trees. The historic climax vegetation includes little bluestem, sand bluestem, switchgrass, and indiangrass. Forbs include western ragweed. Legumes include lespedeza. Trees include about 10 percent shinnery oak.

**R078CY046OK, Clayey Saline Bottomland PE 32-44.** This site is in areas of level to slightly depressional, very deep, somewhat poorly drained soils that have a saline subsoil. This site is on flood plains. The historic climax vegetation includes switchgrass, knotroot bristlegrass, western wheatgrass, and wildrye.

**R078CY050OK, Loamy Bottomland PE 32-44.** This site is in level to gently sloping areas on bottomlands along larger drainageways. It is subject to occasional overflow from streams and runoff from hillsides. The historic climax vegetation includes sand bluestem, big bluestem, switchgrass, little bluestem, indiangrass, western wheatgrass, vine mesquite, tall dropseed, eastern gamagrass, tall dropseed, Canada wildrye, and sideoats grama.

**R078CY056OK, Loamy Prairie PE 32-44.** This site is in areas of deep or very deep, well drained, loamy soils on uplands. The historic climax vegetation includes little bluestem, sand bluestem, sideoats grama, blue grama, tall dropseed, switchgrass, indiangrass, and western wheatgrass. Legumes include leadplant, Illinois bundleflower, and scurfpea. Forbs include Maximilian sunflower, Louisiana sagewort, and heath aster.

**R078CY057OK, Loamy Prairie (Calcareous) PE 32-44.** This site is in areas of deep or very deep, well drained, loamy soils that have a high content of lime. The historic climax vegetation is dominantly little bluestem, sideoats grama, sand bluestem, and blue grama with lesser amounts of indiangrass, switchgrass, buffalograss, and other perennial grasses. Forbs include Engelmann daisy, heath aster, verbena, dotted gayfeather, and catclaw sensitive-brier.

**R078CY068OK, Sandy Bottomland PE 32-44.** This site is in areas of sandy soils on first and second bottoms. The historic climax vegetation includes sand bluestem, little bluestem, indiangrass, switchgrass, big sandreed, tall dropseed, sideoats grama, and Canada wildrye.

**R078CY084OK, Shallow Prairie (South) PE 32-44.** This site is in areas where dolomitic limestone beds are interbedded with red clays. The topography is smooth to rolling. The historic climax vegetation includes little bluestem, sideoats grama, hairy grama, composite dropseed, big bluestem, indiangrass, switchgrass, and Canada wildrye. Legumes include rushpea, prairie clover, prairie bundleflower, and catclaw sensitive-briar. Forbs include Maximilian sunflower, compassplant, purple coneflower, leadplant, and tall blazing star. Woody species include skunkbush sumac, roughleaf dogwood, and winged sumac.

**R078CY089OK, Seep Meadow PE 32-44.** This site is in areas of very deep, somewhat poorly drained, loamy and sandy soils that have a high water table for most of the year. The historic climax vegetation is dominantly switchgrass, sand bluestem, bushy bluestem, indiangrass, and sedges with lesser amounts of muhly, bundleflower, buttonbush, and other grasses and forbs. Trees include willow and cottonwood.

**R078CY094TX, Clayey Bottomland PE 31-44.** This site is in areas of clayey, well drained soils on bottomlands. The historic climax vegetation includes buffalograss, vine mesquite, western wheatgrass, sideoats grama, blue grama, silver bluestem, white tridens, alkali sacaton, and Canada wildrye.

**R078CY096OK, Subirrigated (Moderately Saline) PE 32-44.** This site is dominantly on flat bottomlands along major streams. Smaller areas are along smaller tributaries. The historic climax vegetation includes switchgrass, eastern gamagrass, inland saltgrass, alkali sacaton, alkali muhly, Canada wildrye, bluegrass, western wheatgrass, common reed, and prairie cordgrass. Woody species include willow and cottonwood.

**R078CY096TX, Clay Loam PE 31-44.** This site is in areas of deep or very deep, well drained, clayey soils that have a surface layer of clay loam. The historic climax vegetation includes blue grama, buffalograss, sideoats grama, Arizona cottontop, vine mesquite, western wheatgrass, Texas wintergrass, little bluestem, and sand bluestem. Forbs include asters, catclaw sensitive-brier, and Engelmann daisy. Shrubs include jointfir.

**R078CY097OK, Subirrigated (Saline) PE 32-44.** This site is on bottomlands. The soils are sandy and loamy, have a high water table, and have a slight to moderate content of salt. The soils favor the growth of more salt-tolerant species. The historic climax vegetation includes alkali sacaton, switchgrass, inland saltgrass, western wheatgrass, vine mesquite, little bluestem, tall dropseed, blue grama, and buffalograss. Woody species include willow and cottonwood.

**R078CY098OK, Depressional Upland PE 32-44.** This site is in drainage areas in depressions that are usually inundated. The dominant plants vary depending upon the degree of inundation. They include prairie cordgrass, vine mesquite, buffalograss, blue grama, western wheatgrass, sedges, bristlegrass, duckweed, sedges, and other forbs.

**R078CY105TX, Loamy Sand Prairie PE 31-44.** This site is in areas of very deep, moderately well drained or well drained, loamy soils that have a surface layer of loamy sand. The historic climax vegetation is dominantly sand bluestem, indiangrass, little bluestem, and switchgrass with lesser amounts of sideoats grama, blue grama, sand lovegrass, and Canada wildrye. Forbs include heath aster and sagewort. Woody species include sand sagebrush, hackberry, and plum.

**R078CY107TX, Sand Hills PE 31-44.** This site is in areas of very deep, excessively drained, sandy soils on hummocky dunes. The historic climax vegetation includes sand bluestem, little bluestem, giant sandreed, switchgrass, blue grama, sand dropseed, and sand paspalum. Forbs include primroses, false gauras, and daleas. Woody species include plum, skunkbush sumac, and sand sagebrush.

**R078CY107TX, Sand Hills PE 32-44.** This site is in areas of very deep, excessively drained, sandy soils on hummocky dunes. The historic climax vegetation includes sand bluestem, little bluestem, giant sandreed, switchgrass, blue grama, sand dropseed, and sand paspalum. Forbs include primroses, false gauras, and daleas. Woody species include plum, skunkbush sumac, and sand sagebrush.

**R078CY110TX, Sandy Loam Prairie PE 31-44.** This site is in areas of moderately deep to very deep, well drained, loamy soils that have a surface layer of sandy loam. The historic climax vegetation is dominantly little bluestem, sand bluestem, sideoats grama, and blue grama with lesser amounts of indiangrass, switchgrass, and sand lovegrass. Forbs include catclaw sensitive-brier, Engelmann daisy, gayfeather, and heath aster.

**R078CY834OK, Eroded Sandy Land PE 32-44.** This site is in areas where part or all of the A horizon has been removed by erosion. The soil integrity has been changed. Because of the past erosion and the probability of ongoing erosion, the plant community can be determined only by onsite inspection. The productivity of this site has not been determined.

**R078CY856OK, Eroded Loamy Prairie PE 32-44.** This site is in areas where part or all of the A horizon has been removed by erosion. The soil integrity has been changed. Because of the past erosion and the probability of ongoing erosion, the plant community can be determined only by onsite inspection. The productivity of this site has not been determined. See R078CY056OK, Loamy Prairie PE 32-44, for the historic climax vegetation on the parent site.

**R078CY865OK, Eroded Clay Prairie PE 32-44.** This site is in areas where part or all of the A horizon has been removed by erosion. The soil integrity has been changed. Because of the past erosion and the probability of ongoing erosion, the plant community can be determined only by onsite inspection. The productivity of this site has not been determined. See R078CY065OK, Clay Prairie (North) PE 32-44, for the historic climax vegetation on the parent site.

**R078CY873OK, Eroded Sandy Prairie PE 32-44.** This site is in areas where part or all of the A horizon has been removed by erosion. The soil integrity has been changed. Because of the past erosion and the probability of ongoing erosion, the plant community can be determined only by onsite inspection. The productivity of this site has not been determined. See R078CY073OK, Sandy Prairie PE 32-44, for the historic climax vegetation on the parent site.

**R078CY883OK, Eroded Shallow Prairie PE 32-44.** This site is in areas where part or all of the A horizon has been removed by erosion. The soil integrity has been changed. Because of the past erosion and the probability of ongoing erosion, the plant community can be determined only by onsite inspection. The productivity of this site has not been determined. See R078CY083OK, Shallow Prairie (North) PE 32- 44, for the historic climax vegetation on the parent site.

**R082BY004OK, Boulder Ridge PE 38-48.** This site is on the lower slopes and ridges near the Wichita Mountains. The soils are deep, are gravelly, and have small rocks on or near the surface. The historic climax vegetation is dominantly big bluestem, indiangrass, switchgrass, and little bluestem with lesser amounts of sideoats grama, blue grama, hairy grama, wildrye, dropseed, and forbs. Some areas have a few woody species, including post oak and blackjack oak.

**R082BY056OK, Loamy Prairie PE 38-48.** This site is in areas of productive, deep, loamy soils on uplands. The historic climax vegetation includes little bluestem, sand bluestem, switchgrass, and indiangrass with an understory of sideoats grama, western wheatgrass, blue grama, and buffalograss. Legumes include leadplant, Illinois bundleflower, and scurfpea. Forbs include Maximilian sunflower, Louisiana sagewort, and heath aster.

**R082BY856OK, Eroded Loamy Prairie PE 38-48.** This site is on uplands in areas of nearly level to moderately steep, coarse textured soils where part or all of the A horizon has been removed by erosion. The soil integrity has been changed. Because of the past erosion and the probability of ongoing erosion, the plant community can be determined only by onsite inspection. The productivity of this site has not been determined. See R082BY056OK, Loamy Prairie PE 38-48, for the historic climax vegetation on the parent site.

# Soil Survey of Greer County, Oklahoma

## Rangeland Productivity and Characteristic Plant Communities

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
AceB: Acme-----	Loamy PE 25-36 R078BY079TX	Lb/acre	Lb/acre	Lb/acre		Pct
		3,000	2,250	1,500	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					buffalograss-----	10
					sand bluestem-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					switchgrass-----	5
ArHF: Arnett-----	Sandy Loam Prairie PE 31-44 R078CY110TX	4,000	2,800	2,000	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
Hardeman-----	Sandy Loam Prairie PE 31-44 R078CY110TX	3,000	2,400	1,800	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
ArnB: Arnett-----		Lb/acre	Lb/acre	Lb/acre		Pct
	Sandy Loam Prairie PE 31-44 R078CY110TX	4,000	3,200	2,400	little bluestem----- sideoats grama----- blue grama----- sand bluestem----- Canada wildrye----- indiangrass----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- sand lovegrass----- switchgrass-----	30 15 10 10 5 5 5 5 5 5
ArnC: Arnett-----		4,000	3,200	2,400	little bluestem----- sideoats grama----- blue grama----- sand bluestem----- Canada wildrye----- indiangrass----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- sand lovegrass----- switchgrass-----	30 15 10 10 5 5 5 5 5 5
AsmB: Aspermont-----		3,000	2,250	1,500	little bluestem----- sideoats grama----- blue grama----- buffalograss----- sand bluestem----- indiangrass----- miscellaneous perennial forbs-- miscellaneous perennial grasses switchgrass----- tall dropseed-----	30 15 10 10 10 5 5 5 5 5
	Loamy PE 25-36 R078BY079TX					



Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
AsmC: Aspermont-----	Loamy PE 25-36 R078BY079TX	Lb/acre 3,000	Lb/acre 2,250	Lb/acre 1,500	little bluestem----- sideoats grama----- blue grama----- buffalograss----- sand bluestem----- indiangrass----- miscellaneous perennial forbs-- miscellaneous perennial grasses switchgrass----- tall dropseed-----	Pct 30 15 10 10 10 5 5 5 5
BekA: Beckman-----	Clayey Saline Bottomland PE 32-44 R078CY046OK	3,000	2,100	1,500	alkali sacaton----- miscellaneous perennial grasses inland saltgrass----- western wheatgrass----- Canada wildrye----- miscellaneous perennial forbs-- miscellaneous trees----- switchgrass----- vine mesquite-----	40 15 10 10 5 5 5 5
Bf dB: Burford-----	Loamy Prairie (calcareous) PE 32-44 R078CY057OK	4,000	2,800	2,000	little bluestem----- sand bluestem----- blue grama----- buffalograss----- miscellaneous perennial grasses sideoats grama----- indiangrass----- miscellaneous perennial forbs-- miscellaneous trees----- switchgrass----- tall dropseed-----	20 15 10 10 10 10 5 5 5 5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
BfGC: Burford-----	Loamy Prairie (calcareous) PE 32-44 R078CY0570K	4,000	2,800	2,000	little bluestem-----	20
					sand bluestem-----	15
					blue grama-----	10
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous trees-----	5
					switchgrass-----	5
BfSC2: Burford, Eroded-----	Eroded Loamy Prairie PE 32-44 R078CY8560K	---	---	---	tall dropseed-----	5
					---	---
					---	---
Spikebox, Eroded-----	Eroded Shallow Prairie PE 32-44 R078CY8830K	---	---	---	---	---
					---	---
					---	---
BfSE: Burford-----	Loamy Prairie (calcareous) PE 32-44 R078CY0570K	4,000	2,800	2,000	little bluestem-----	20
					sand bluestem-----	15
					blue grama-----	10
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous trees-----	5
					switchgrass-----	5
Spikebox-----	Shallow Prairie (south) PE 32-44 R078CY0840K	2,500	1,800	1,300	tall dropseed-----	5
					little bluestem-----	25
					sideoats grama-----	20
					hairy grama-----	10
					sand bluestem-----	10
					indiangrass-----	5
					blue grama-----	5
					buffalograss-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					threeawn-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Brie: Brico-----	Boulder Ridge Savannah PE 38-48 R082BY0040K	4,000	3,000	2,000	big bluestem-----	25
					little bluestem-----	20
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous trees-----	5
					purpletop tridens-----	5
					switchgrass-----	5
Buka: Bukreek-----	Loamy Prairie PE 25-36 R078BY081TX	3,500	3,000	2,350	little bluestem-----	40
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous shrubs-----	10
					indiangrass-----	5
					blue grama-----	5
					miscellaneous trees-----	5
					sand bluestem-----	5
					sideoats grama-----	5
					switchgrass-----	5
CarB: Carey-----	Loamy Prairie PE 25-36 R078BY081TX	3,500	3,000	2,350	little bluestem-----	40
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous shrubs-----	10
					indiangrass-----	5
					blue grama-----	5
					miscellaneous trees-----	5
					sand bluestem-----	5
					sideoats grama-----	5
					switchgrass-----	5
CawA: Carwile-----	Depressional Upland PE 32-44 R078CY0980K	5,000	4,000	3,000	switchgrass-----	20
					barnyardgrass-----	15
					miscellaneous perennial grasses	15
					prairie cordgrass-----	10
					indiangrass-----	8
					sedge-----	8
					miscellaneous perennial forbs--	5
					smartweed-----	5
					miscellaneous shrubs-----	2
					miscellaneous trees-----	2

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
CVRD: Cottonwood-----	Gyp PE 25-36 R078BY076TX	Lb/acre	Lb/acre	Lb/acre		Pct
		500	450	300	little bluestem-----	50
					miscellaneous perennial forbs--	15
					miscellaneous perennial grasses	10
					miscellaneous shrubs-----	10
Vinson-----	Loamy PE 25-36 R078BY079TX				sideoats grama-----	10
					miscellaneous trees-----	5
		3,000	2,250	1,500	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
Rock outcrop-----	---				buffalograss-----	10
					sand bluestem-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
DAM: Dam-----	---				switchgrass-----	5
					tall dropseed-----	5
						---
						---
						---
DeSD: Devol-----	Loamy Sand Prairie PE 31-44 R078CY105TX	4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
Springer----- DkuA: Duke-----	Loamy Sand Prairie PE-31-44 R078CY105TX	Lb/acre 4,500	Lb/acre 3,500	Lb/acre 2,500	sand bluestem-----	Pct 25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5
					miscellaneous perennial forbs--	15
					miscellaneous shrubs-----	15
					miscellaneous perennial grasses	10
					alkali sacaton-----	5
Dodson----- DodA: Dodson-----	Clayey Bottomland PE 25-36 R078BY070TX	3,500	2,750	2,000	blue grama-----	5
					buffalograss-----	5
					cane bluestem-----	5
					fall witchgrass-----	5
					halls panicum-----	5
					plains bristlegrass-----	5
					sand dropseed-----	5
					sideoats grama-----	5
					threeawn-----	5
					vine mesquite-----	5
					white tridens-----	5
					blue grama-----	20
					buffalograss-----	15
					Arizona cottontop-----	10
					miscellaneous perennial grasses	10
Dodson----- DodA: Dodson-----	Clay Loam PE 31-44 R078CY096TX	2,600	1,900	1,300	sideoats grama-----	10
					vine mesquite-----	10
					little bluestem-----	5
					miscellaneous perennial forbs--	5
					sand bluestem-----	5
					silver bluestem-----	5
					western wheatgrass-----	5
					blue grama-----	20
					buffalograss-----	15
					Arizona cottontop-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					vine mesquite-----	10
					little bluestem-----	5
					miscellaneous perennial forbs--	5
					sand bluestem-----	5
					silver bluestem-----	5
					western wheatgrass-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
DodB: Dodson-----	Clay Loam PE 31-44 R078CY096TX	2,600	1,900	1,300	blue grama-----	20
					buffalograss-----	15
					Arizona cottontop-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					vine mesquite-----	10
					little bluestem-----	5
					miscellaneous perennial forbs--	5
					sand bluestem-----	5
					silver bluestem-----	5
					western wheatgrass-----	5
Eata: Eastall-----	Lakebed PE 25-36 R078BY078TX	5,000	2,750	500	vine mesquite-----	20
					miscellaneous perennial forbs--	15
					miscellaneous perennial grasses	15
					blue grama-----	10
					buffalograss-----	10
					cane bluestem-----	10
					knotgrass-----	10
					white tridens-----	10
EdsB: Eda-----	Deep Sand Savannah (west) PE 32-44 R078CY0170K	5,000	4,000	3,000	miscellaneous trees-----	20
					little bluestem-----	15
					sand bluestem-----	15
					indiangrass-----	10
					miscellaneous perennial grasses	10
					switchgrass-----	10
					dropseed-----	5
					miscellaneous shrubs-----	5
					Scribner panicum-----	5
					miscellaneous perennial forbs--	1
EdsD: Eda-----	Deep Sand Savannah (west) PE 32-44 R078CY0170K	5,000	4,000	3,000	miscellaneous trees-----	20
					little bluestem-----	15
					sand bluestem-----	15
					indiangrass-----	10
					miscellaneous perennial grasses	10
					switchgrass-----	10
					dropseed-----	5
					miscellaneous shrubs-----	5
					Scribner panicum-----	5
					miscellaneous perennial forbs--	1

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
EdsF: Eda-----	Deep Sand Savannah (west) PE 32-44 R078CY017OK	5,000	4,000	3,000	miscellaneous trees----- little bluestem----- sand bluestem----- indiangrass----- miscellaneous perennial grasses switchgrass----- dropseed----- miscellaneous shrubs----- Scribner panicum----- miscellaneous perennial forbs--	20 15 15 10 10 10 5 5 5 1
FraB: Frankirk-----	Loamy Prairie PE 32-44 R078CY056OK	5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 10 5 5
FryB: Farry-----	Loamy Prairie PE 38-48 R082BY056OK	4,200	3,000	1,800	little bluestem----- sand bluestem----- indiangrass----- blue grama----- dropseed----- miscellaneous perennial forbs-- miscellaneous perennial grasses sideoats grama----- switchgrass-----	35 25 10 5 5 5 5 5 5
GdFB: Grandfield-----	Sandy Loam Prairie PE 31-44 R078CY110TX	4,000	3,200	2,400	little bluestem----- sideoats grama----- blue grama----- sand bluestem----- Canada wildrye----- indiangrass----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- sand lovegrass----- switchgrass-----	30 15 10 10 5 5 5 5 5 5 5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
GLGB: Grandmore-----	Loamy Sand Prairie PE 31-44 R078CY105TX	Lb/acre	Lb/acre	Lb/acre		Pct
		4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5
Grandfield-----	Loamy Sand Prairie PE 31-44 R078CY105TX	4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5
GLSB: Grandfield-----	Loamy Sand Prairie PE 31-44 R078CY105TX	4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5



# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
GlsD: Grandfield-----	Loamy Sand Prairie PE 31-44 R078CY105TX	Lb/acre	Lb/acre	Lb/acre		Pct
		4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5
GmuA: Gracemont, saline----	Subirrigated (saline) PE 32-44 R078CY097OK	7,000	5,800	5,000	switchgrass-----	25
					indiangrass-----	15
					alkali sacaton-----	10
					alkali muhly-----	5
					inland saltgrass-----	5
					prairie cordgrass-----	5
					sedge-----	5
					sunflower-----	5
					western wheatgrass-----	5
GmwA: Gracemont, saline----	Subirrigated (saline) PE 32-44 R078CY097OK	7,000	5,800	5,000	switchgrass-----	25
					indiangrass-----	15
					alkali sacaton-----	10
					alkali muhly-----	5
					inland saltgrass-----	5
					prairie cordgrass-----	5
					sedge-----	5
					sunflower-----	5
					western wheatgrass-----	5
GrrA: Gracemore, saline----	Subirrigated (saline) PE 32-44 R078CY097OK	7,000	5,800	5,000	switchgrass-----	25
					indiangrass-----	15
					alkali sacaton-----	10
					alkali muhly-----	5
					inland saltgrass-----	5
					prairie cordgrass-----	5
					sedge-----	5
					sunflower-----	5
					western wheatgrass-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
Gtbb: Gotebo-----	Loamy Prairie (calcareous) PE 32-44 R078CY0570K	Lb/acre	Lb/acre	Lb/acre		Pct
		4,000	2,800	2,000	little bluestem-----	20
					sand bluestem-----	15
					blue grama-----	10
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous trees-----	5
					switchgrass-----	5
					tall dropseed-----	5
Hdmb: Hardeman-----	Sandy Loam Prairie PE 31-44 R078CY110TX	3,700	2,950	2,200	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					switchgrass-----	5
Hdmc: Hardeman-----	Sandy Loam Prairie PE 31-44 R078CY110TX	3,700	2,950	2,200	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					switchgrass-----	5
Hfka: Hayfork-----	Clayey Bottomland PE 31-44 R078CY094TX	6,500	4,500	2,500	sedge-----	40
					rush-----	25
					miscellaneous perennial grasses	10
					prairie cordgrass-----	10
					miscellaneous perennial forbs--	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
HksA: Headrick-----	Seep Meadow PE 32-44 R078CY0890K	Lb/acre	Lb/acre	Lb/acre		Pct
		6,500	4,500	2,500	sedge-----	40
					rush-----	25
					prairie cordgrass-----	10
					miscellaneous perennial grasses	8
					miscellaneous perennial forbs--	5
					switchgrass-----	5
					miscellaneous shrubs-----	3
					inland ceanothus-----	2
					miscellaneous trees-----	2
HolA: Hollister-----	Clay Loam PE 31-44 R078CY096TX	2,600	1,900	1,300	blue grama-----	20
					buffalograss-----	15
					Arizona cottontop-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					vine mesquite-----	10
					little bluestem-----	5
					miscellaneous perennial forbs--	5
					sand bluestem-----	5
					silver bluestem-----	5
					western wheatgrass-----	5
HrAC: Harmon-----	Very Shallow PE 25-36 R078BY091TX	1,000	900	600	little bluestem-----	35
					sideoats grama-----	30
					black grama-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous trees-----	5
Aspermont-----	Loamy PE 25-36 R078BY079TX	3,000	2,250	1,500	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					buffalograss-----	10
					sand bluestem-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					switchgrass-----	5
					tall dropseed-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
HSAF: Hardeman-----	Sandy Loam Prairie PE 31-44 R078CY110TX	3,500	2,700	2,000	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
Southside-----	Sand Hills PE 31-44 R078CY107TX	2,500	1,800	1,200	switchgrass-----	5
					sand bluestem-----	20
					little bluestem-----	15
					giant sandreed-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous shrubs-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					dropseed-----	5
Arnett-----	Sandy Loam Prairie PE 31-44 R078CY110TX	4,000	2,800	2,000	sand lovegrass-----	5
					little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
Jesc: Jester-----	Sand Hills PE 31-44 R078CY107TX	2,500	1,800	1,200	sand lovegrass-----	5
					switchgrass-----	5
					sand bluestem-----	20
					little bluestem-----	15
					giant sandreed-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous shrubs-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					dropseed-----	5
					sand lovegrass-----	5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
KcRG: Knoco, bouldery-----	Rocky Hill PE 25-36 R078BY692TX	3,500	2,500	1,500	little bluestem----- sand bluestem----- sideoats grama----- indiangrass----- miscellaneous shrubs----- Canada wildrye----- miscellaneous perennial forbs-- miscellaneous perennial grasses	25 20 20 10 10 5 5 5
Rock outcrop-----	---	---	---	---	---	---
KoBE: Knoco-----	Very Shallow Clay PE 25-36 R078BY092TX	1,200	800	400	sideoats grama----- miscellaneous perennial grasses blue grama----- buffalograss----- curlymesquite----- miscellaneous perennial forbs-- miscellaneous shrubs-----	40 15 10 10 10 10 5
Badland-----	---	---	---	---	---	---
KRCF: Knoco-----	Very Shallow Clay PE 25-36 R078BY092TX	1,200	800	400	sideoats grama----- miscellaneous perennial grasses blue grama----- buffalograss----- curlymesquite----- miscellaneous perennial forbs-- miscellaneous shrubs-----	40 15 10 10 10 10 5
Rock outcrop-----	---	---	---	---	---	---
Cottonwood-----	Gyp PE 25-36 R078BY076TX	500	450	300	little bluestem----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- sideoats grama----- miscellaneous trees-----	50 15 10 10 10 5
LacB: La Casa-----	Clay Loam PE 25-36 R078BY072TX	2,000	1,500	1,000	blue grama----- buffalograss----- miscellaneous perennial forbs-- vine mesquite----- miscellaneous shrubs-----	50 20 15 10 5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Lnua: Lincoln-----	Sandy Bottomland PE 32-44 R078CY068OK	3,000	2,300	1,800	switchgrass-----	30
					indiangrass-----	15
					little bluestem-----	15
					miscellaneous perennial forbs--	15
					sand bluestem-----	15
					Texas bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous trees-----	5
					threeawn-----	5
LnWA: Lincoln-----	Sandy Bottomland PE 32-44 R078CY068OK	3,000	2,300	1,800	switchgrass-----	30
					indiangrass-----	15
					little bluestem-----	15
					miscellaneous perennial forbs--	15
					sand bluestem-----	15
					Texas bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous trees-----	5
					threeawn-----	5
Westola-----	Loamy Bottomland PE 32-44 R078CY050OK	14,000	11,000	8,000	big bluestem-----	25
					indiangrass-----	15
					switchgrass-----	15
					little bluestem-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					eastern gamagrass-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5
LwtA: Lawton-----	Loamy Prairie PE 38-48 R082BY056OK	4,200	3,000	1,800	little bluestem-----	35
					sand bluestem-----	25
					indiangrass-----	10
					blue grama-----	5
					dropseed-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					sideoats grama-----	5
					switchgrass-----	5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
LwtB: Lawton-----	Loamy Prairie PE 38-48 R082BY056OK	Lb/acre 4,200	Lb/acre 3,000	Lb/acre 1,800	little bluestem----- sand bluestem----- indiangrass----- blue grama----- dropseed----- miscellaneous perennial forbs-- miscellaneous perennial grasses sideoats grama----- switchgrass-----	Pct 35 25 10 5 5 5 5 5 5
LwtC2: Lawton, Eroded-----	Eroded Loamy Prairie PE 38-48 R082BY856OK	---	---	---	---	---
M-W: Water, Miscellaneous-	---	---	---	---	---	---
MagB: Madge-----	Loamy Prairie PE 32-44 R078CY056OK	5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 10 5 5
MdGB: Madge-----	Loamy Prairie PE 32-44 R078CY056OK	5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 10 5 5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
MktNB: McKnight-----	Sandy Loam Prairie PE 31-44 R078CY110TX	Lb/acre	Lb/acre	Lb/acre		Pct
		4,000	2,800	2,000	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					switchgrass-----	5
MktB: McKnight-----	Loamy Sand Prairie PE 31-44 R078CY105TX	4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5
MktC2: McKnight, Eroded-----	Eroded Sandy Land PE 32-44 R078CY834OK	---	---	---	---	---
NpsB: Nipsun-----	Clay Loam PE 25-36 R078BY072TX	2,000	1,500	1,000	blue grama-----	50
					buffalograss-----	20
					miscellaneous perennial forbs--	15
					vine mesquite-----	10
					miscellaneous shrubs-----	5
NstC: Nobscot-----	Deep Sand Savannah (west) PE 32-44 R078CY017OK	5,000	4,000	3,000	miscellaneous trees-----	20
					little bluestem-----	15
					sand bluestem-----	15
					indiangrass-----	10
					miscellaneous perennial grasses	10
					switchgrass-----	10
					dropseed-----	5
					miscellaneous shrubs-----	5
					Scribner panicum-----	5
					miscellaneous perennial forbs--	1



Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
OakA: Oakley-----	Loamy Prairie (calcareous) PE 32-44 R078CY057OK	4,000	2,800	2,000	little bluestem-----	20
					sand bluestem-----	15
					blue grama-----	10
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous trees-----	5
					switchgrass-----	5
					tall dropseed-----	5
OakB: Oakley-----	Loamy Prairie (calcareous) PE 32-44 R078CY057OK	4,000	2,800	2,000	little bluestem-----	20
					sand bluestem-----	15
					blue grama-----	10
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous trees-----	5
					switchgrass-----	5
					tall dropseed-----	5
OzKA: Ozark-----	Sandy Loam Prairie PE 31-44 R078CY110TX	5,000	4,000	3,000	little bluestem-----	30
					sideoats grama-----	15
					blue grama-----	10
					sand bluestem-----	10
					Canada wildrye-----	5
					indiangrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					switchgrass-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
PIT: Pits-----	---	Lb/acre	Lb/acre	Lb/acre		Pct
QhTC: Quanah-----	Loamy PE 25-36 R078BY079TX	3,000	2,250	1,500	little bluestem----- sideoats grama----- blue grama----- buffalograss----- sand bluestem----- indiangrass----- miscellaneous perennial forbs-- miscellaneous perennial grasses switchgrass----- tall dropseed-----	30 15 10 10 10 5 5 5 5
Talpa-----	Very Shallow PE 25-36 R078BY091TX	1,000	900	600	little bluestem----- sideoats grama----- black grama----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous trees-----	35 30 10 10 10 5
QnRG: Quinlan-----	Loamy Breaks PE 32-44 R078CY0050K	2,000	1,500	1,000	little bluestem----- sideoats grama----- blue grama----- miscellaneous perennial forbs-- indiangrass----- buffalograss----- dropseed----- hairy grama----- miscellaneous perennial grasses miscellaneous shrubs----- Scribner panicum-----	25 20 10 10 5 5 5 5 5 5
Rock outcrop-----	---	0	0	0	---	---
RaKA: Roark-----	Loamy Prairie PE 32-44 R078CY0560K	5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 5 5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
RKBG: Rock outcrop, granite	---	0	0	0	---	---
Brico-----	Boulder Ridge Savannah PE 38-48 R082BY0040K	4,000	3,000	2,000	big bluestem----- little bluestem----- miscellaneous perennial forbs-- miscellaneous perennial grasses sideoats grama----- Canada wildrye----- indiangrass----- miscellaneous trees----- purpletop tridens----- switchgrass-----	25 20 10 10 10 5 5 5 5 5
RKO: Rock outcrop, granite	---	---	---	---	---	---
RuUA: Rups-----	Clayey Saline Bottomland PE 32-44 R078CY0460K	3,000	2,100	1,500	alkali sacaton----- miscellaneous perennial grasses inland saltgrass----- western wheatgrass----- Canada wildrye----- miscellaneous perennial forbs-- miscellaneous trees----- switchgrass----- vine mesquite-----	40 15 10 10 5 5 5 5 5
RuWA: Rups-----	Clayey Saline Bottomland PE 32-44 R078CY0460K	3,000	2,100	1,500	alkali sacaton----- miscellaneous perennial grasses inland saltgrass----- western wheatgrass----- Canada wildrye----- miscellaneous perennial forbs-- miscellaneous trees----- switchgrass----- vine mesquite-----	40 15 10 10 5 5 5 5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
SKRG: Spikebox-----	Loamy Breaks PE 32-44 R078CY0050K	Lb/acre	Lb/acre	Lb/acre		Pct
		2,000	1,500	1,000	little bluestem-----	25
					sideoats grama-----	20
					blue grama-----	10
					miscellaneous perennial forbs--	10
					indiangrass-----	5
					buffalograss-----	5
					dropseed-----	5
					hairy grama-----	5
					miscellaneous perennial grasses	5
Knoco-----	Clayey Breaks PE 32-44 R078CY0060K	950	650	400	miscellaneous shrubs-----	5
					Scribner panicum-----	5
					sideoats grama-----	25
					buffalograss-----	15
					alkali sacaton-----	10
					blue grama-----	10
					dropseed-----	5
					hairy grama-----	5
					little bluestem-----	5
					miscellaneous perennial forbs--	5
Rock outcrop-----	---	0	0	0	miscellaneous perennial grasses	5
					miscellaneous trees-----	5
					silver bluestem-----	5
					vine mesquite-----	5
					---	---
SpDB: Springer-----	Loamy Sand Prairie PE 31-44 R078CY105TX	4,500	3,500	2,500	sand bluestem-----	25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
					sideoats grama-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
Devol----- Loamy Sand Prairie PE 31-44 R078CY105TX		Lb/acre 4,500	Lb/acre 3,500	Lb/acre 2,500	sand bluestem-----	Pct 25
					little bluestem-----	20
					indiangrass-----	10
					switchgrass-----	10
					Canada wildrye-----	5
					blue grama-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					sand lovegrass-----	5
Sp1A: Spur----- Loamy Bottomland PE 32-44 R078CY0500K		14,000	11,000	8,000	sideoats grama-----	5
					big bluestem-----	25
					indiangrass-----	15
					switchgrass-----	15
					little bluestem-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					eastern gamagrass-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5
SuA: Spur----- Loamy Bottomland PE 32-44 R078CY0500K		14,000	11,000	8,000	big bluestem-----	25
					indiangrass-----	15
					switchgrass-----	15
					little bluestem-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					eastern gamagrass-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5
SuA: Spur----- Loamy Bottomland PE 32-44 R078CY0500K		14,000	11,000	8,000	big bluestem-----	25
					indiangrass-----	15
					switchgrass-----	15
					little bluestem-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					eastern gamagrass-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
SuWA: Spur-----	Loamy Bottomland PE 25-36 R078BY080TX	3,600	3,000	1,700	switchgrass-----	35
					indiangrass-----	20
					sideoats grama-----	15
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
TARD: Talpa-----	Very Shallow PE 25-36 R078BY091TX	1,000	900	600	miscellaneous shrubs-----	5
					miscellaneous trees-----	5
					little bluestem-----	35
					sideoats grama-----	30
					black grama-----	10
Aspermont-----	Loamy PE 25-36 R078BY079TX	3,000	2,250	1,500	miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous trees-----	5
					little bluestem-----	30
					sideoats grama-----	15
Rock outcrop-----	-----	---	---	---	blue grama-----	10
					buffalograss-----	10
					sand bluestem-----	10
					indiangrass-----	5
					miscellaneous perennial forbs--	5
Tillman-----	Clay Loam PE 31-44 R078CY096TX	2,600	1,900	1,300	miscellaneous perennial grasses	5
					switchgrass-----	5
					tall dropseed-----	5
					blue grama-----	20
					buffalograss-----	15
					Arizona cottontop-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					vine mesquite-----	10
					little bluestem-----	5
					miscellaneous perennial forbs--	5
					sand bluestem-----	5
					silver bluestem-----	5
					western wheatgrass-----	5

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
TilB: Tillman-----	Clay Loam PE 31-44 R078CY096TX	2,600	1,900	1,300	blue grama----- buffalograss----- Arizona cottontop----- miscellaneous perennial grasses sideoats grama----- vine mesquite----- little bluestem----- miscellaneous perennial forbs-- sand bluestem----- silver bluestem----- western wheatgrass-----	20 15 10 10 10 10 5 5 5 5
TipA: Tipton-----	Loamy Prairie PE 32-44 R078CY056OK	5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 5 5
TlVB: Tilvern-----	Shallow Clay PE 25-36 R078BY090TX	1,400	1,200	600	blue grama----- miscellaneous perennial forbs-- buffalograss----- miscellaneous perennial grasses sideoats grama----- tobosagrass----- little bluestem----- miscellaneous shrubs----- miscellaneous trees-----	20 15 10 10 10 5 5 5
TpFA: Tipton-----	Loamy Prairie PE 32-44 R078CY056OK	5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 5 5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
TrwB: Treadway-----	Clay Flat PE 25-36 R078BY071TX	3,450	2,900	1,850	tobosagrass-----	70
					alkali sacaton-----	5
					blue grama-----	5
					buffalograss-----	5
					miscellaneous perennial forbs--	5
VeKE: Vernon-----	Shallow Clay PE 25-36 R078BY090TX	1,400	1,200	600	miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					blue grama-----	20
					miscellaneous perennial forbs--	15
					buffalograss-----	10
Knoco-----	Very Shallow Clay PE 25-36 R078BY092TX	1,200	800	400	miscellaneous perennial grasses	40
					blue grama-----	15
					buffalograss-----	10
					curlymesquite-----	10
					miscellaneous perennial forbs--	10
VerC: Vernon-----	Shallow Clay PE 25-36 R078BY090TX	1,400	1,200	600	miscellaneous shrubs-----	5
					blue grama-----	20
					miscellaneous perennial forbs--	15
					buffalograss-----	10
					miscellaneous perennial grasses	10
VeTE: Vernon-----	Shallow Clay PE 25-36 R078BY090TX	1,400	1,200	600	sideoats grama-----	10
					tobosagrass-----	10
					little bluestem-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5
		1,400	1,200	600	blue grama-----	20
					miscellaneous perennial forbs--	15
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
		1,400	1,200	600	tobosagrass-----	10
					little bluestem-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5
					blue grama-----	20
		1,400	1,200	600	miscellaneous perennial forbs--	15
					buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					tobosagrass-----	10
		1,400	1,200	600	little bluestem-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5
					blue grama-----	20
					miscellaneous perennial forbs--	15
		1,400	1,200	600	buffalograss-----	10
					miscellaneous perennial grasses	10
					sideoats grama-----	10
					tobosagrass-----	10
					little bluestem-----	5
		1,400	1,200	600	miscellaneous shrubs-----	5
					miscellaneous trees-----	5
					blue grama-----	20
					miscellaneous perennial forbs--	15
					buffalograss-----	10



## Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		
Talpa, stony-----  Talpa, stony----- W: Water-----  Wlwb: Willow-----	Very Shallow PE 25-36 R078BY091TX	1,000	900	600	little bluestem----- sideoats grama----- black grama----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous trees-----	Pct  35 30 10 10 10 5
		---	---	---	---	---
		5,800	4,200	3,500	miscellaneous perennial grasses little bluestem----- indiangrass----- miscellaneous perennial forbs-- sand bluestem----- sideoats grama----- miscellaneous shrubs----- switchgrass-----	35 15 10 10 10 10 5 5
		3,500	3,000	2,350	little bluestem----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- indiangrass----- blue grama----- miscellaneous trees----- sand bluestem----- sideoats grama----- switchgrass-----	40 10 10 10 5 5 5 5 5 5
		3,500	3,000	2,350	little bluestem----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- indiangrass----- blue grama----- miscellaneous trees----- sand bluestem----- sideoats grama----- switchgrass-----	40 10 10 10 5 5 5 5 5 5
WooB: Woodward-----  WooB: Woodward----- WooC: Woodward-----	Loamy Prairie PE 25-36 R078BY081TX	3,500	3,000	2,350	little bluestem----- miscellaneous perennial forbs-- miscellaneous perennial grasses miscellaneous shrubs----- indiangrass----- blue grama----- miscellaneous trees----- sand bluestem----- sideoats grama----- switchgrass-----	40 10 10 10 5 5 5 5 5 5
		---	---	---	---	---
		---	---	---	---	---
		---	---	---	---	---
		---	---	---	---	---

Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
WoQE: Woodward-----	Loamy Prairie PE 25-36 R078BY081TX	Lb/acre	Lb/acre	Lb/acre		Pct
		3,500	3,000	2,350	little bluestem-----	40
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					miscellaneous shrubs-----	10
					indiangrass-----	5
					blue grama-----	5
					miscellaneous trees-----	5
					sand bluestem-----	5
					sideoats grama-----	5
Quinlan-----	Shallow Prairie (south) PE 32-44 R078CY084OK	2,500	1,800	1,300	little bluestem-----	25
					sideoats grama-----	20
					hairy grama-----	10
					sand bluestem-----	10
					indiangrass-----	5
					blue grama-----	5
					buffalograss-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
WslA: Westola-----	Loamy Bottomland PE 32-44 R078CY050OK	14,000	11,000	8,000	big bluestem-----	25
					indiangrass-----	15
					switchgrass-----	15
					little bluestem-----	10
					miscellaneous perennial forbs--	10
					miscellaneous perennial grasses	10
					eastern gamagrass-----	5
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5

# Soil Survey of Greer County, Oklahoma

Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
WstA: Westola-----	Loamy Bottomland PE 32-44 R078CY0500K	Lb/acre 14,000	Lb/acre 11,000	Lb/acre 8,000	big bluestem----- indiangrass----- switchgrass----- little bluestem----- miscellaneous perennial forbs-- miscellaneous perennial grasses eastern gamagrass----- miscellaneous shrubs----- miscellaneous trees-----	Pct 25 15 15 10 10 10 5 5 5
WtIA: Westill-----	Clay Loam PE 25-36 R078BY072TX	2,000	1,500	1,000	blue grama----- buffalograss----- miscellaneous perennial forbs-- vine mesquite----- miscellaneous shrubs-----	50 20 15 10 5
WtIB: Westill-----	Clay Loam PE 25-36 R078BY072TX	2,000	1,500	1,000	blue grama----- buffalograss----- miscellaneous perennial forbs-- vine mesquite----- miscellaneous shrubs-----	50 20 15 10 5

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how trees perform on such land can be gained only by observing and recording the performance of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under given climatic conditions. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

The table, "Windbreaks and Environmental Plantings," shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in this table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from local offices of the Natural Resources Conservation Service or the Cooperative Extension Service or from a nursery.

# Soil Survey of Greer County, Oklahoma

## Windbreaks and Environmental Plantings

[Absence of an entry indicates that trees generally do not grow to the given height]

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
AcceB: Acme-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
ArHF: Arnett-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
Hardeman-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
ArnB: Arnett-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
ArnC: Arnett-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---

# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--					
	<8	8-15	16-25	26-35	>35	
AsmB: Aspermont-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
AsmC: Aspermont-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
BekA: Beckman-----	---	---	---	---	---	
BfdB: Burford-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
BfDC: Burford-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
BfSC2: Burford, moderately eroded-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
Spikebox, moderately eroded-----	---	---	---	---	---	

# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--					
	<8	8-15	16-25	26-35	>35	
BfSE: Burford-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
Spikebox-----	---	---	---	---	---	
BriE: Brico-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---	
BuKA: Bukreek-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
CarB: Carey-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
CawA: Carwile-----	---	---	---	---	---	
CVRD: Cottonwood-----	---	---	---	---	---	

# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--					
	<8	8-15	16-25	26-35	>35	
Vinson-----	Chickasaw plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	bur oak, common hackberry, lacebark elm, osageorange, ponderosa pine, green ash, black locust	---	---	
Rock outcrop-----	---	---	---	---	---	
DAM: Dam-----	---	---	---	---	---	
DeSD: Devol-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---	
Springer-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---	
DkuA: Duke-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
DodA: Dodson-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	



# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
DodB: Dodson-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
Eata: Eastall-----	---	---	---	---	---
EdsB: Eda-----	Chickasaw plum	---	Rocky Mountain juniper, bur oak, oriental arborvitae, ponderosa pine, Austrian pine, osageorange, common hackberry, green ash, lacebark elm, loblolly pine	black locust	---
EdsD: Eda-----	Chickasaw plum	---	Rocky Mountain juniper, bur oak, oriental arborvitae, ponderosa pine, Austrian pine, osageorange, common hackberry, green ash, lacebark elm, loblolly pine	black locust	---
EdsF: Eda-----	Chickasaw plum	---	Rocky Mountain juniper, bur oak, oriental arborvitae, ponderosa pine, Austrian pine, osageorange, common hackberry, green ash, lacebark elm, loblolly pine	black locust	---

# Soil Survey of Greer County, Oklahoma

## Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
FraB: Frankirk-----	American plum	common lilac, Amur	bur oak,	loblolly pine	---
		honeysuckle,	osageorange,		
		eastern redbud,	ponderosa pine, red		
		oriental arborvitae	mulberry, black		
			locust, common		
FryB: Farry-----	shrub lespezeza		hackberry, lacebark	osageorange, bur	---
			elm		
		Amur honeysuckle,	eastern redbud,		
		American plum	Scotch pine, Rocky		
			Mountain juniper,		
GdfB: Grandfield-----	shrub lespezeza		oriental	ash, lacebark elm,	---
			arborvitae, red		
			mulberry, Austrian		
			pine, ponderosa		
			pine		
GLGB: Grandmore-----	shrub lespezeza	Amur honeysuckle,	eastern redbud,	osageorange, bur	---
		American plum	Scotch pine, Rocky		
			Mountain juniper,		
			oriental		
			arborvitae, red		
Grandfield-----	shrub lespezeza		mulberry, Austrian	ash, lacebark elm,	---
			pine, ponderosa		
			pine		
		Amur honeysuckle,	eastern redbud,		
		American plum	Scotch pine, Rocky		
Grandfield-----	shrub lespezeza		Mountain juniper,	black locust	---
			oriental		
			arborvitae, red		
			mulberry, Austrian		
			pine, ponderosa		

# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
GlsB: Grandfield-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
GlsD: Grandfield-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
GmuA: Gracemont, saline-----	---	---	---	---	---
GmwA: Gracemont, saline-----	---	---	---	---	---
GrrA: Gracemore, saline-----	---	---	---	---	---
Gtbb: Gotebo-----	Chickasaw plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	bur oak, common hackberry, lacebark elm, osageorange, ponderosa pine, green ash, black locust	---	---
HdmB: Hardeman-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---

Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
HdmC: Hardman-----	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
HfKA: Hayfork-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
HksA: Headrick-----	---	lespedeza	eastern redbud, oriental arborvitae, American plum, lacebark elm, osageorange, bur oak	green ash, red mulberry, baldcypress	American sycamore, eastern cottonwood
HolA: Hollister-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
HrAC: Harmon-----	---	---	---	---	---
Aspermont-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---

# Soil Survey of Greer County, Oklahoma

## Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
<p>HSAP:</p> <p>Hardeman-----</p>	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
<p>Southside-----</p>	American plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	Austrian pine, common hackberry, lacebark elm, osageorange, ponderosa pine, red mulberry, green ash, bur oak, black locust	---	---
<p>Arnett-----</p>	shrub lespezeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
<p>Jesc:</p> <p>Jester-----</p>	Chickasaw plum	---	Rocky Mountain juniper, bur oak, oriental arborvitae, ponderosa pine, Austrian pine, osageorange, common hackberry, green ash, lacebark elm, loblolly pine	black locust	---
<p>KcRG:</p> <p>Knoco, bouldery-----</p>	---	---	---	---	---
<p>Rock outcrop-----</p>	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
KoBE: Knoco-----	---	---	---	---	---
Badland-----	---	---	---	---	---
KRCF: Knoco-----	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---
Cottonwood-----	---	---	---	---	---
LacB: La Casa-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
LnuA: Lincoln-----	Sand Plum	---	Rocky Mountain juniper, bur oak, oriental arborvitae, ponderosa pine, Austrian pine, osageorange, common hackberry, green ash, lacebark elm, loblolly pine	black locust	---
LnWA: Lincoln-----	Sand Plum	---	Rocky Mountain juniper, bur oak, oriental arborvitae, ponderosa pine, Austrian pine, osageorange, common hackberry, green ash, lacebark elm, loblolly pine	black locust	---

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
Westola-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
LwtA: Lawton-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
LwtB: Lawton-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
LwtC2: Lawton, moderately eroded-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
M-W: Water, Miscellaneous----	---	---	---	---	---
MagB: Madge-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---

## Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
MdGB: Madge-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
MkNB: Mcknight-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---
MkTB: Mcknight-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---
MkTC2: Mcknight, moderately eroded-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---
NpsB: Nipsum-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---



# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
NstC: Nobscot-----	Chickasaw plum	eastern rebud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---
OakA: Oakley-----	American plum, Amur honeysuckle, common lilac	eastern rebud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
OakB: Oakley-----	American plum, Amur honeysuckle, common lilac	eastern rebud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
OzKA: Ozark-----	lespedeza	Amur honeysuckle, American plum	eastern rebud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
PIT: Pits-----	---	---	---	---	---
QhtC: Quanh-----	eastern rebud	oriental arborvitae	Austrian pine, bur oak, lacebark elm, osageorange, ponderosa pine, black locust, green ash	---	---
Talpa-----	---	---	---	---	---

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
QnRG: Quinlan-----	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---
RaKa: Roark-----	---	American plum, Amur honeysuckle, common lilac, eastern redbud, oriental arborvitae	ponderosa pine, bur oak, red mulberry, osageorange, common hackberry, lacebark elm, loblolly pine	black locust	---
RKEG: Rock outcrop, granite---	---	---	---	---	---
Brico-----	American plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	Austrian pine, bur oak, common hackberry, lacebark elm, ponderosa pine, green ash, black locust, loblolly pine	---	---
RKO: Rock outcrop, granite---	---	---	---	---	---
RuuA: Rups-----	---	---	---	---	---
RuWA: Rups-----	---	---	---	---	---
SKRG: Spikebox-----	---	---	---	---	---
Knoco-----	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---
SpDB: Springer-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--					
	<8	8-15	16-25	26-35	>35	
Devol-----	Chickasaw plum	eastern redbud, oriental arborvitae	Austrian pine, Rocky Mountain juniper, bur oak, common hackberry, green ash, ponderosa pine, lacebark elm, osageorange	black locust, loblolly pine	---	
Sp1A:-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
SurA:-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
SuuA:-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
SuWA:-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	

# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
TARD: Talpa-----	---	---	---	---	---
Aspermont-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, ponderosa pine, osageorange, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
Rock outcrop-----	---	---	---	---	---
TilA: Tillman-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
TilB: Tillman-----	American plum	common lilac, Amur honeysuckle, eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---
TipA: Tipton-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
TilvB: Tilvern-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---

# Soil Survey of Greer County, Oklahoma

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
TpFA: Tipton-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---
TrWB: Treadway-----	---	---	---	---	---
VeKE: Vernon-----	---	---	---	---	---
Knoco-----	---	---	---	---	---
VerC: Vernon-----	---	---	---	---	---
VeTE: Vernon-----	---	---	---	---	---
Talpa, stony-----	---	---	---	---	---
W: Water-----	---	---	---	---	---
WlWB: Willow-----	---	American plum, Amur honeysuckle, common lilac, eastern redbud, oriental arborvitae	ponderosa pine, bur oak, red mulberry, osageorange, common hackberry, lacebark elm, loblolly pine	black locust	---
WooB: Woodward-----	Chickasaw plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	common hackberry, lacebark elm, osageorange, ponderosa pine, bur oak, black locust, green ash	---	---
WooC: Woodward-----	Chickasaw plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	common hackberry, lacebark elm, osageorange, ponderosa pine, bur oak, black locust, green ash	---	---

Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--					
	<8	8-15	16-25	26-35	>35	
WoQE: Woodward-----	Chickasaw plum	eastern redbud, oriental arborvitae, Rocky Mountain juniper	common hackberry, lacebark elm, osageorange, ponderosa pine, bur oak, black locust, green ash	---	---	
Quinlan-----	---	---	---	---	---	
WslA: Westola-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
WstA: Westola-----	shrub lespedeza	Amur honeysuckle, American plum	eastern redbud, Scotch pine, Rocky Mountain juniper, oriental arborvitae, red mulberry, Austrian pine, ponderosa pine	osageorange, bur oak, common hackberry, green ash, lacebark elm, black locust	---	
WtIA: Westill-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	
WtIB: Westill-----	American plum, Amur honeysuckle, common lilac	eastern redbud, oriental arborvitae	bur oak, osageorange, ponderosa pine, red mulberry, black locust, common hackberry, lacebark elm	loblolly pine	---	

## Recreation

The soils of the survey area are rated in the table, "Recreational Development, Parts I and II," according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to Flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to Flooding are limited for recreational uses by the duration and intensity of Flooding and the season when Flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, Ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that

affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

*Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

*Golf fairways* are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.



# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Not limited		Not limited		Not limited	
ArHF: Arnett-----	45	Not limited		Not limited		Somewhat limited Slope	0.88
Hardeman-----	40	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
ArnB: Arnett-----	85	Not limited		Not limited		Somewhat limited Gravel content	0.22
ArnC: Arnett-----	83	Not limited		Not limited		Somewhat limited Slope	0.50
AsmB: Aspermont-----	80	Not limited		Not limited		Not limited	
AsmC: Aspermont-----	81	Not limited		Not limited		Somewhat limited Slope	0.50
BekA: Beckman-----	85	Very limited Flooding Sodium content Too clayey	1.00 1.00 0.50	Very limited Sodium content Too clayey Slow water movement	1.00 0.50 0.45	Very limited Sodium content Flooding Too clayey	1.00 0.60 0.50
		Slow water movement	0.45			Slow water movement	0.45
BfdB: Burford-----	90	Not limited		Not limited		Not limited	
BfdC: Burford-----	92	Not limited		Not limited		Somewhat limited Slope	0.50
BfSC2: Burford, moderately eroded-----	50	Not limited		Not limited		Somewhat limited Slope	0.50
Spikebox, moderately eroded-----	40	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.50
BfSE: Burford-----	50	Not limited		Not limited		Very limited Slope	1.00

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Spikebox-----	40	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Depth to bedrock Slope	1.00 1.00
BriE: Brico-----	85	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope Gravel content	1.00 0.56
BukA: Bukreek-----	92	Not limited		Not limited		Not limited	
CarB: Carey-----	90	Not limited		Not limited		Not limited	
CawA: Carwile-----	90	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96
CVRD: Cottonwood-----	42	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.50
Vinson-----	25	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.65 0.12
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Somewhat limited Too sandy	0.88	Somewhat limited Too sandy	0.88	Somewhat limited Slope Too sandy	0.97 0.88
Springer-----	27	Somewhat limited Too sandy	0.36	Somewhat limited Too sandy	0.36	Somewhat limited Slope Too sandy	0.88 0.36
DkuA: Duke-----	80	Very limited Sodium content Flooding Too clayey  Slow water movement	1.00 1.00 0.50  0.45	Very limited Sodium content Too clayey Slow water movement	1.00 0.50 0.45	Very limited Sodium content Flooding Too clayey  Slow water movement	1.00 0.60 0.50  0.45
DodA: Dodson-----	92	Not limited		Not limited		Not limited	

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DodB: Dodson-----	87	Not limited		Not limited		Not limited	
EatA: Eastall-----	94	Very limited Depth to saturated zone Ponding Too clayey Slow water movement	1.00 1.00 0.50 0.45	Very limited Depth to saturated zone Ponding Too clayey Slow water movement	1.00 1.00 0.50 0.45	Very limited Depth to saturated zone Ponding Too clayey Slow water movement	1.00 1.00 0.50 0.45
EdsB: Eda-----	87	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy	1.00
EdsD: Eda-----	87	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.88
EdsF: Eda-----	90	Very limited Too sandy Slope	1.00 0.63	Very limited Too sandy Slope	1.00 0.63	Very limited Slope Too sandy	1.00 1.00
FraB: Frankirk-----	90	Not limited		Not limited		Not limited	
FryB: Farry-----	92	Not limited		Not limited		Not limited	
GdfB: Grandfield-----	80	Not limited		Not limited		Not limited	
GlGB: Grandmore-----	65	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30
Grandfield-----	25	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30
GlsB: Grandfield-----	87	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30
GlsD: Grandfield-----	87	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Somewhat limited Slope Too sandy	0.88 0.30
GmuA: Gracemont, saline---	90	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00	Very limited Salinity Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Salinity Flooding	1.00 1.00 0.60

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GmwA: Gracemont, saline---	89	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00	Very limited Salinity Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00
GrrA: Gracemore, saline---	90	Very limited Depth to saturated zone Flooding Salinity	1.00 1.00 1.00	Very limited Salinity Depth to saturated zone	1.00 0.83	Very limited Depth to saturated zone Salinity Flooding	1.00 1.00 0.60
GtbB: Gotebo-----	82	Not limited		Not limited		Not limited	
HdmB: Hardeman-----	90	Not limited		Not limited		Not limited	
HdmC: Hardeman-----	95	Not limited		Not limited		Somewhat limited Slope	0.50
HfkA: Hayfork-----	83	Very limited Flooding Slow water movement	1.00 0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
HksA: Headrick-----	90	Not rated Not rated; Unified Too sandy	0.81	Not rated Not rated; Unified Too sandy	0.81	Not rated Not rated; Unified Too sandy	0.81
HolA: Hollister-----	91	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45
HrAC: Harmon-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Gravel content Slope	1.00 1.00 0.28
Aspermont-----	44	Not limited		Not limited		Not limited	
HSAF: Hardeman-----	50	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
Southside-----	27	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope Gravel content	1.00 0.04

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Arnett-----	20	Not limited		Not limited		Very limited Slope	1.00
JesC: Jester-----	87	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.12
KcRG: Knoco, bouldery----	45	Very limited Slope Depth to bedrock Large stones content Too clayey Slow water movement	1.00 1.00 0.76 0.50 0.45	Very limited Slope Depth to bedrock Large stones content Too clayey Slow water movement	1.00 1.00 0.76 0.50 0.45	Very limited Slope Depth to bedrock Large stones content Too clayey Slow water movement	1.00 1.00 0.76 0.50 0.45
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE: Knoco-----	45	Very limited Depth to bedrock Too clayey Slow water movement	1.00 0.50 0.45	Very limited Depth to bedrock Too clayey Slow water movement	1.00 0.50 0.45	Very limited Depth to bedrock Too clayey Slow water movement	1.00 0.50 0.45
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Very limited Depth to bedrock Too clayey Slow water movement Slope	1.00 0.50 0.45 0.16	Very limited Depth to bedrock Too clayey Slow water movement Slope	1.00 0.50 0.45 0.16	Very limited Slope Depth to bedrock Too clayey Slow water movement	1.00 1.00 0.50 0.45
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 1.00
LacB: La Casa-----	79	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
LnuA: Lincoln-----	90	Very limited Flooding Too sandy	1.00 0.91	Somewhat limited Too sandy	0.91	Somewhat limited Too sandy Flooding	0.91 0.60
LnWA: Lincoln-----	65	Very limited Flooding Too sandy	1.00 0.91	Somewhat limited Too sandy Flooding	0.91 0.40	Very limited Flooding Too sandy	1.00 0.91

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Westola-----	22	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
LwtA: Lawton-----	87	Not limited		Not limited		Not limited	
LwtB: Lawton-----	87	Not limited		Not limited		Not limited	
LwtC2: Lawton, moderately eroded-----	77	Not limited		Not limited		Somewhat limited  Slope	 0.72
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Not limited		Not limited		Not limited	
MdgB: Madge-----	90	Somewhat limited Too sandy	0.01	Somewhat limited Too sandy	0.01	Somewhat limited Too sandy	0.01
MknB: Mcknight-----	87	Somewhat limited Slow water movement	0.29	Somewhat limited Slow water movement	0.29	Somewhat limited Slow water movement	0.29
MktB: Mcknight-----	85	Somewhat limited Too sandy Slow water movement	0.76 0.29	Somewhat limited Too sandy Slow water movement	0.76 0.29	Somewhat limited Too sandy Slow water movement	0.76 0.29
MktC2: Mcknight, moderately eroded-----	75	Somewhat limited  Too sandy Slow water movement	 0.76 0.29	Somewhat limited  Too sandy Slow water movement	 0.76 0.29	Somewhat limited  Too sandy Slope  Slow water movement	 0.76 0.50  0.29
NpsB: Nipsum-----	82	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
NstC: Nobscot-----	85	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.28
OakA: Oakley-----	80	Not limited		Not limited		Not limited	
OakB: Oakley-----	85	Not limited		Not limited		Not limited	

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OzkA: Ozark-----	85	Not limited		Not limited		Not limited	
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Not limited		Not limited		Somewhat limited Slope	0.12
Talpa-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.12
QnRG: Quinlan-----	50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.99
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Very limited Flooding  Depth to saturated zone Salinity	1.00  0.81 0.50	Somewhat limited Salinity  Depth to saturated zone	0.50  0.48	Somewhat limited Depth to saturated zone Flooding Salinity	0.81  0.60 0.50
RuwA: Rups-----	82	Very limited Flooding Salinity	1.00 0.50	Somewhat limited Salinity Flooding	0.50 0.40	Very limited Flooding Salinity	1.00 0.50
SKRG: Spikebox-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Knoco-----	23	Very limited Slope Depth to bedrock Too clayey Slow water movement	1.00 1.00 0.50 0.45	Very limited Slope Depth to bedrock Too clayey Slow water movement	1.00 1.00 0.50 0.45	Very limited Slope Depth to bedrock Too clayey Slow water movement	1.00 1.00 0.50 0.45
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Somewhat limited Too sandy	0.36	Somewhat limited Too sandy	0.36	Somewhat limited Too sandy	0.36
Devol-----	22	Somewhat limited Too sandy	0.88	Somewhat limited Too sandy	0.88	Somewhat limited Too sandy	0.88
SplA: Spur-----	90	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
SurA: Spur-----	84	Very limited Flooding	1.00	Not limited		Not limited	
SuuA: Spur-----	90	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
SuWA: Spur-----	87	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
TARD: Talpa-----	46	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.28
Aspermont-----	37	Not limited		Not limited		Somewhat limited Slope	0.03
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
TilB: Tillman-----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
TipA: Tipton-----	80	Not limited		Not limited		Not limited	
TlvB: Tilvern-----	85	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45



# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TpFA: Tipton-----	90	Not limited		Not limited		Not limited	
TrwB: Treadway-----	87	Very limited Sodium content Slow water movement	1.00 0.45	Very limited Sodium content Slow water movement	1.00 0.45	Very limited Sodium content Slow water movement	1.00 0.45
VeKE: Vernon-----	50	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Depth to bedrock  Slope Slow water movement	0.80  0.50 0.45
Knoco-----	35	Very limited Depth to bedrock Too clayey Slow water movement	1.00 0.50 0.45	Very limited Depth to bedrock Too clayey Slow water movement	1.00 0.50 0.45	Very limited Slope Depth to bedrock Too clayey  Slow water movement	1.00 1.00 0.50  0.45
VerC: Vernon-----	78	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slope  Slow water movement Depth to bedrock	0.50  0.45 0.10
VeTE: Vernon-----	53	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slope  Slow water movement Depth to bedrock	0.88  0.45 0.01
Talpa, stony-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.88
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Not limited		Not limited		Not limited	
WooB: Woodward-----	87	Not limited		Not limited		Not limited	
WooC: Woodward-----	90	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.65 0.50

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WoQE: Woodward-----	50	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Depth to bedrock	1.00 0.80
Quinlan-----	37	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 1.00
WslA: Westola-----	90	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
WstA: Westola-----	92	Very limited Flooding	1.00	Not limited		Not limited	
WtlA: Westill-----	85	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45
WtlB: Westill-----	83	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Not limited		Not limited		Not limited	
ArHF: Arnett-----	45	Not limited		Not limited		Not limited	
Hardeman-----	40	Not limited		Not limited		Somewhat limited Slope	0.01
ArnB: Arnett-----	85	Not limited		Not limited		Not limited	
ArnC: Arnett-----	83	Not limited		Not limited		Not limited	
AsmB: Aspermont-----	80	Not limited		Not limited		Not limited	
AsmC: Aspermont-----	81	Not limited		Not limited		Not limited	
BekA: Beckman-----	85	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Too clayey Sodium content Flooding	1.00 1.00 0.60
BfdB: Burford-----	90	Not limited		Not limited		Not limited	
BfdC: Burford-----	92	Not limited		Not limited		Not limited	
BfSC2: Burford, moderately eroded-----	50	Not limited		Not limited		Not limited	
Spikebox, moderately eroded-----	40	Not limited		Not limited		Very limited  Depth to bedrock Droughty	  1.00 0.96
BfSE: Burford-----	50	Not limited		Not limited		Not limited	
Spikebox-----	40	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.01
BriE: Brico-----	85	Not limited		Not limited		Somewhat limited Large stones content Slope	0.68 0.16

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BukA: Bukreek-----	92	Not limited		Not limited		Not limited	
CarB: Carey-----	90	Not limited		Not limited		Not limited	
CawA: Carwile-----	90	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
CVRD: Cottonwood-----	42	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 1.00
Vinson-----	25	Not limited		Not limited		Somewhat limited Depth to bedrock	0.65
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Somewhat limited Too sandy	0.88	Somewhat limited Too sandy	0.88	Not limited	
Springer-----	27	Somewhat limited Too sandy	0.36	Somewhat limited Too sandy	0.36	Not limited	
DkuA: Duke-----	80	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Sodium content Too clayey Flooding	1.00 1.00 0.60
DodA: Dodson-----	92	Not limited		Not limited		Not limited	
DodB: Dodson-----	87	Not limited		Not limited		Not limited	
EatA: Eastall-----	94	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00
EdsB: Eda-----	87	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty Too sandy	0.91 0.50

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EdsD: Eda-----	87	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty Too sandy	0.92 0.50
EdsF: Eda-----	90	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty Slope Too sandy	0.97 0.63 0.50
FraB: Frankirk-----	90	Not limited		Not limited		Not limited	
FryB: Farry-----	92	Not limited		Not limited		Not limited	
GdfB: Grandfield-----	80	Not limited		Not limited		Not limited	
G1GB: Grandmore-----	65	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Not limited	
Grandfield-----	25	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Not limited	
GlsB: Grandfield-----	87	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Not limited	
GlsD: Grandfield-----	87	Somewhat limited Too sandy	0.30	Somewhat limited Too sandy	0.30	Not limited	
GmuA: Gracemont, saline---	90	Somewhat limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	1.00	Very limited Salinity  Depth to saturated zone Flooding	1.00  1.00 0.60
GmwA: Gracemont, saline---	89	Somewhat limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding  Salinity Depth to saturated zone	1.00  1.00 1.00
GrrA: Gracemore, saline---	90	Somewhat limited Depth to saturated zone	0.62	Somewhat limited Depth to saturated zone	0.62	Very limited Salinity  Depth to saturated zone Flooding Droughty	1.00  0.83 0.60 0.34

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GtbB: Gotebo-----	82	Not limited		Not limited		Somewhat limited Depth to bedrock	0.80
HdmB: Hardeman-----	90	Not limited		Not limited		Not limited	
HdmC: Hardeman-----	95	Not limited		Not limited		Not limited	
HfkA: Hayfork-----	83	Not limited		Not limited		Not limited	
HksA: Headrick-----	90	Not rated Not rated; Unified Too sandy	0.81	Not rated Not rated; Unified Too sandy	0.81	Not limited	
HolA: Hollister-----	91	Not limited		Not limited		Not limited	
HrAC: Harmon-----	50	Not limited		Not limited		Very limited Depth to bedrock Carbonate content Droughty	1.00 1.00 1.00
Aspermont-----	44	Not limited		Not limited		Not limited	
HSAF: Hardeman-----	50	Not limited		Not limited		Somewhat limited Slope	0.01
Southside-----	27	Not limited		Not limited		Somewhat limited Droughty Slope	0.98 0.16
Arnett-----	20	Not limited		Not limited		Not limited	
JesC: Jester-----	87	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty	0.99
KcRG: Knoco, bouldery-----	45	Somewhat limited Large stones content Slope Too clayey	0.76 0.50 0.50	Somewhat limited Large stones content Too clayey	0.76 0.50	Very limited Droughty Depth to bedrock Slope Too clayey Large stones content	1.00 1.00 1.00 0.16
Rock outcrop-----	20	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KoBE: Knoco-----	45	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Depth to bedrock Droughty Too clayey	1.00 1.00 1.00
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Depth to bedrock Droughty Too clayey Slope	1.00 1.00 1.00 0.16
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.16
LacB: La Casa-----	79	Not limited		Not limited		Not limited	
LnuA: Lincoln-----	90	Somewhat limited Too sandy	0.91	Somewhat limited Too sandy	0.91	Somewhat limited Droughty Flooding	0.97 0.60
LnWA: Lincoln-----	65	Somewhat limited Too sandy Flooding	0.91 0.40	Somewhat limited Too sandy Flooding	0.91 0.40	Very limited Flooding Droughty	1.00 0.99
Westola-----	22	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
LwtA: Lawton-----	87	Not limited		Not limited		Not limited	
LwtB: Lawton-----	87	Not limited		Not limited		Not limited	
LwtC2: Lawton, moderately eroded-----	77	Not limited		Not limited		Not limited	
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Not limited		Not limited		Not limited	
MdgB: Madge-----	90	Somewhat limited Too sandy	0.01	Somewhat limited Too sandy	0.01	Not limited	

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MknB: Mcknight-----	87	Not limited		Not limited		Not limited	
MktB: Mcknight-----	85	Somewhat limited Too sandy	0.76	Somewhat limited Too sandy	0.76	Not limited	
MktC2: Mcknight, moderately eroded-----	75	Somewhat limited Too sandy	0.76	Somewhat limited Too sandy	0.76	Not limited	
NpsB: Nipsum-----	82	Not limited		Not limited		Not limited	
NstC: Nobscot-----	85	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Too sandy Droughty	0.50 0.40
OakA: Oakley-----	80	Not limited		Not limited		Not limited	
OakB: Oakley-----	85	Not limited		Not limited		Not limited	
OzKA: Ozark-----	85	Not limited		Not limited		Not limited	
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Not limited		Not limited		Not limited	
Talpa-----	20	Not limited		Not limited		Very limited Droughty Depth to bedrock	1.00 1.00
QnRG: Quinlan-----	50	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.56	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Not limited		Not limited		Not limited	
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Somewhat limited Slope	0.02	Not limited		Very limited Slope Large stones content	1.00 0.68



# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Somewhat limited Depth to saturated zone	0.11	Somewhat limited Depth to saturated zone	0.11	Somewhat limited Flooding  Salinity Depth to saturated zone	0.60  0.50 0.48
RuwA: Rups-----	82	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding Salinity	1.00 0.50
SKRG: Spikebox-----	40	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
Knoco-----	23	Very limited Slope Too clayey	1.00 0.50	Somewhat limited Too clayey	0.50	Very limited Depth to bedrock Droughty Slope Too clayey	1.00 1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Somewhat limited Too sandy	0.36	Somewhat limited Too sandy	0.36	Somewhat limited Droughty	0.01
Devol-----	22	Somewhat limited Too sandy	0.88	Somewhat limited Too sandy	0.88	Somewhat limited Droughty	0.01
SplA: Spur-----	90	Not limited		Not limited		Somewhat limited Flooding	0.60
SurA: Spur-----	84	Not limited		Not limited		Not limited	
SuuA: Spur-----	90	Not limited		Not limited		Somewhat limited Flooding	0.60
SuwA: Spur-----	87	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TARD:							
Talpa-----	46	Not limited		Not limited		Very limited Droughty Depth to bedrock	1.00 1.00
Aspermont-----	37	Not limited		Not limited		Not limited	
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA:							
Tillman-----	85	Not limited		Not limited		Not limited	
TilB:							
Tillman-----	85	Not limited		Not limited		Not limited	
TipA:							
Tipton-----	80	Not limited		Not limited		Not limited	
TlvB:							
Tilvern-----	85	Not limited		Not limited		Not limited	
TpfA:							
Tipton-----	90	Not limited		Not limited		Not limited	
TrwB:							
Treadway-----	87	Not limited		Not limited		Very limited Sodium content Droughty	1.00 0.16
VeKE:							
Vernon-----	50	Not limited		Not limited		Somewhat limited Depth to bedrock Droughty	0.80 0.02
Knoco-----	35	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Depth to bedrock Droughty Too clayey	1.00 1.00 1.00
VerC:							
Vernon-----	78	Not limited		Not limited		Somewhat limited Depth to bedrock	0.10
VeTE:							
Vernon-----	53	Not limited		Not limited		Somewhat limited Depth to bedrock	0.01
Talpa, stony-----	25	Not limited		Not limited		Very limited Droughty Depth to bedrock	1.00 1.00
W:							
Water-----	100	Not rated		Not rated		Not rated	
WlwB:							
Willow-----	85	Not limited		Not limited		Not limited	

# Soil Survey of Greer County, Oklahoma

## Recreational Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WooB: Woodward-----	87	Not limited		Not limited		Somewhat limited Depth to bedrock	0.01
WooC: Woodward-----	90	Not limited		Not limited		Somewhat limited Depth to bedrock	0.65
WoQE: Woodward-----	50	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope Droughty	0.80 0.04 0.01
Quinlan-----	37	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Depth to bedrock Droughty Slope	1.00 0.98 0.04
WslA: Westola-----	90	Not limited		Not limited		Somewhat limited Flooding	0.60
WstA: Westola-----	92	Not limited		Not limited		Not limited	
WtlA: Westill-----	85	Not limited		Not limited		Not limited	
WtlB: Westill-----	83	Not limited		Not limited		Not limited	

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Sanitary Facilities

The table, "Sanitary Facilities, Parts I and II," shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more

features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. slope affects construction of the trenches and the movement of

surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime. Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area. After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Somewhat limited Depth to saturated zone Slow water movement	0.78 0.46	Somewhat limited Seepage Depth to saturated zone	0.53 0.10
ArHF: Arnett-----	45	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.68
Hardeman-----	40	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage Slope	1.00 1.00
ArnB: Arnett-----	85	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
ArnC: Arnett-----	83	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.32
AsmB: Aspermont-----	80	Very limited Slow water movement Depth to bedrock	1.00 0.77	Somewhat limited Depth to soft bedrock Seepage	0.38 0.28
AsmC: Aspermont-----	81	Very limited Slow water movement Depth to bedrock	1.00 0.78	Somewhat limited Depth to soft bedrock Slope Seepage	0.42 0.32 0.28
BekA: Beckman-----	85	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 0.94	Very limited Flooding Depth to saturated zone	1.00 0.40

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BfdB: Burford-----	90	Very limited Slow water movement Depth to bedrock	1.00 0.98	Somewhat limited Depth to soft bedrock Seepage	0.93 0.01
BfdC: Burford-----	92	Very limited Slow water movement Depth to bedrock	1.00 1.00	Somewhat limited Depth to soft bedrock Slope Seepage	1.00 0.32 0.01
BfSC2: Burford, moderately eroded-----	50	Very limited  Slow water movement Depth to bedrock	 1.00 1.00	Somewhat limited  Depth to soft bedrock Slope Seepage	 1.00 0.32 0.01
Spikebox, moderately eroded-----	40	Very limited  Depth to bedrock	 1.00	Very limited  Depth to soft bedrock Seepage Slope	 1.00 0.53 0.32
BfSE: Burford-----	50	Very limited Slow water movement Depth to bedrock	1.00 0.41	Somewhat limited Slope Depth to soft bedrock Seepage	0.92 0.02 0.01
Spikebox-----	40	Very limited Depth to bedrock  Slope	1.00 0.01	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.53
BriE: Brico-----	85	Very limited Slow water movement Large stones content Slope	1.00 0.28 0.16	Very limited Slope Large stones content	1.00 0.66
BukA: Bukreek-----	92	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Somewhat limited Seepage	0.53



# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CarB: Carey-----	90	Very limited Seepage, bottom layer Slow water movement Depth to bedrock	1.00 1.00 0.09	Very limited Seepage	1.00
CawA: Carwile-----	90	Very limited Slow water movement Depth to saturated zone Seepage, bottom layer Ponding	1.00 1.00 1.00 1.00	Very limited Seepage Depth to saturated zone Ponding	1.00 1.00 1.00
CVRD: Cottonwood-----	42	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.32
Vinson-----	25	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 0.53 0.08
Rock outcrop-----	23	Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated	
DeSD: Devol-----	60	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.82
Springer-----	27	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.68
DkuA: Duke-----	80	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding Seepage	1.00 0.01
DodA: Dodson-----	92	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
DodB: Dodson-----	87	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.28
EatA: Eastall-----	94	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00		
EdsB: Eda-----	87	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Seepage, bottom layer	1.00		
EdsD: Eda-----	87	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.68
EdsF: Eda-----	90	Very limited Filtering capacity	1.00	Very limited Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.63		
FraB: Frankirk-----	90	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
FryB: Farry-----	92	Very limited Seepage, bottom layer	1.00	Somewhat limited Seepage	0.53
		Slow water movement	0.46		
GdfB: Grandfield-----	80	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
		Slow water movement	0.46		
GlGB: Grandmore-----	65	Very limited Depth to saturated zone	1.00	Very limited Seepage	1.00
		Slow water movement	1.00		

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Grandfield-----	25	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
GlsB: Grandfield-----	87	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
GlsD: Grandfield-----	87	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.68
GmuA: Gracemont, saline---	90	Very limited Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
GmwA: Gracemont, saline---	89	Very limited Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
GrrA: Gracemore, saline---	90	Very limited Flooding Depth to saturated zone Filtering capacity Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
GtbB: Gotebo-----	82	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Seepage	1.00 0.53
HdmB: Hardeman-----	90	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
HdmC: Hardeman-----	95	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.32
HfkA: Hayfork-----	83	Very limited Slow water movement Flooding	1.00 0.40	Somewhat limited Flooding	0.40
HksA: Headrick-----	90	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Seepage Depth to saturated zone	0.53 0.08
HolA: Hollister-----	91	Very limited Slow water movement	1.00	Not limited	
HrAC: Harmon-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock Seepage Slope	1.00 0.53 0.18
Aspermont-----	44	Very limited Slow water movement Depth to bedrock	1.00 0.78	Somewhat limited Depth to soft bedrock Seepage	0.42 0.28
HSAF: Hardeman-----	50	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage Slope	1.00 1.00
Southside-----	27	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 1.00
Arnett-----	20	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 1.00
JesC: Jester-----	87	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.08

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
KcRG: Knoco, bouldery-----	45	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
KoBE: Knoco-----	45	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock	1.00
Badland-----	30	Not rated		Not rated	
KRCF: Knoco-----	33	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.16	Very limited Depth to soft bedrock Slope	1.00 1.00
Rock outcrop-----	21	Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope	1.00 1.00
LacB: La Casa-----	79	Very limited Slow water movement	1.00	Not limited	
LnuA: Lincoln-----	90	Very limited Flooding Filtering capacity Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00
LnWA: Lincoln-----	65	Very limited Flooding Filtering capacity Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00
Westola-----	22	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00
LwtA: Lawton-----	87	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.01

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
LwtB: Lawton-----	87	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.01
LwtC2: Lawton, moderately eroded-----	77	Very limited  Slow water movement	1.00	Somewhat limited  Seepage  Slope	0.53  0.50
M-W: Water, Miscellaneous	100	Not rated		Not rated	
MagB: Madge-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
MdgB: Madge-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
MknB: Mcknight-----	87	Very limited Slow water movement Depth to bedrock	1.00 0.63	Somewhat limited Seepage  Depth to soft bedrock	0.53  0.18
MktB: Mcknight-----	85	Very limited Slow water movement Depth to bedrock	1.00 0.68	Very limited Seepage  Depth to soft bedrock	1.00  0.23
MktC2: Mcknight, moderately eroded-----	75	Very limited Slow water movement Depth to bedrock	1.00 0.73	Somewhat limited Seepage  Slope Depth to soft bedrock	0.53  0.32 0.32
NpsB: Nipsum-----	82	Very limited Slow water movement	1.00	Not limited	
NstC: Nobscot-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage  Slope	1.00  0.18

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
OakA: Oakley-----	80	Very limited Slow water movement Seepage, bottom layer	1.00  1.00	Somewhat limited Seepage	0.53
OakB: Oakley-----	85	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
OzkA: Ozark-----	85	Very limited Slow water movement Depth to saturated zone	1.00  0.97	Somewhat limited Seepage	0.01
PIT: Pits-----	100	Not rated		Not rated	
QhTC: Quanah-----	50	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage  Slope	0.53  0.08
Talpa-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00  0.08
QnRG: Quinlan-----	50	Very limited Depth to bedrock  Slow water movement Slope	1.00  1.00 1.00	Very limited Depth to soft bedrock Slope	1.00  1.00
Rock outcrop-----	25	Not rated		Not rated	
RakA: Roark-----	85	Very limited Slow water movement Seepage, bottom layer	1.00  1.00	Somewhat limited Seepage	0.01
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated	
Brico-----	30	Very limited Slow water movement Slope  Large stones content	1.00  1.00 0.39	Very limited Slope  Large stones content	1.00  0.78

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
RKO: Rock outcrop, granite-----	100	Not rated		Not rated	
RuuA: Rups-----	90	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
RuwA: Rups-----	82	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.01
SKRG: Spikebox-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Knoco-----	23	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
SpDB: Springer-----	70	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
Devol-----	22	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
SplA: Spur-----	90	Very limited Flooding Slow water movement	1.00 0.46	Very limited Flooding Seepage	1.00 1.00
SurA: Spur-----	84	Somewhat limited Slow water movement Flooding	0.46 0.40	Somewhat limited Seepage Flooding	0.53 0.40
SuuA: Spur-----	90	Very limited Flooding Slow water movement	1.00 0.46	Very limited Flooding Seepage	1.00 0.53



# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
SuWA: Spur-----	87	Very limited Flooding Slow water movement	1.00 0.46	Very limited Flooding Seepage	1.00 0.53
TARD: Talpa-----	46	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.18
Aspermont-----	37	Very limited Slow water movement Depth to bedrock	1.00 0.99	Somewhat limited Depth to soft bedrock Seepage Slope	0.96 0.28 0.02
Rock outcrop-----	11	Not rated		Not rated	
TilA: Tillman-----	85	Very limited Slow water movement	1.00	Not limited	
TilB: Tillman-----	85	Very limited Slow water movement	1.00	Not limited	
TipA: Tipton-----	80	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
TlvB: Tilvern-----	85	Very limited Slow water movement Depth to bedrock	1.00 0.73	Somewhat limited Depth to soft bedrock	0.32
TpfA: Tipton-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
TrwB: Treadway-----	87	Very limited Slow water movement	1.00	Not limited	
VeKE: Vernon-----	50	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 0.32

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Knoco-----	35	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 0.92
VerC: Vernon-----	78	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 0.32
VeTE: Vernon-----	53	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 0.68
Talpa, stony-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.68
W: Water-----	100	Not rated		Not rated	
WlwB: Willow-----	85	Very limited Slow water movement Seepage, bottom layer Depth to bedrock	1.00 1.00 0.59	Very limited Seepage Depth to soft bedrock	1.00 0.13
WooB: Woodward-----	87	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Seepage	1.00 0.53
WooC: Woodward-----	90	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Seepage Slope	1.00 0.53 0.32
WoQE: Woodward-----	50	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.04	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.53
Quinlan-----	37	Very limited Depth to bedrock  Slow water movement Slope	1.00 1.00 0.04	Very limited Depth to soft bedrock Slope	1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part I--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
WslA: Westola-----	90	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00
WstA: Westola-----	92	Very limited Seepage, bottom layer Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40
WtlA: Westill-----	85	Very limited Slow water movement Depth to bedrock	1.00 0.01	Not limited	
WtlB: Westill-----	83	Very limited Slow water movement Depth to bedrock	1.00 0.02	Not limited	

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
ArHF: Arnett-----	45	Very limited Seepage, bottom layer	1.00	Not limited		Not limited	
Hardeman-----	40	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage Slope	0.52 0.01
ArnB: Arnett-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.22
ArnC: Arnett-----	83	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Somewhat limited Too sandy Seepage	0.50 0.22
AsmB: Aspermont-----	80	Very limited Depth to bedrock Too clayey	1.00 0.50	Somewhat limited Depth to bedrock	0.39	Somewhat limited Too clayey Depth to bedrock	0.50 0.39
AsmC: Aspermont-----	81	Very limited Depth to bedrock Too clayey	1.00 0.50	Somewhat limited Depth to bedrock	0.42	Somewhat limited Too clayey Depth to bedrock	0.50 0.42
BekA: Beckman-----	85	Very limited Flooding Depth to saturated zone Too clayey Excess sodium	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Too clayey Hard to compact Sodium content	1.00 1.00 1.00
BfdB: Burford-----	90	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	0.94	Somewhat limited Depth to bedrock Too clayey	0.94 0.50
BfdC: Burford-----	92	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	1.00	Very limited Too clayey Depth to bedrock	1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfSC2: Burford, moderately eroded-----	50	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Spikebox, moderately eroded-----	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
BfSE: Burford-----	50	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
Spikebox-----	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.01	Slope	0.01	Slope	0.01
BriE: Brico-----	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Large stones content	0.75	Slope	0.16	Large stones content	0.75
		Too clayey	0.50			Too clayey	0.50
		Slope	0.16			Slope	0.16
BukA: Bukreek-----	92	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
CarB: Carey-----	90	Very limited		Not limited		Somewhat limited	
		Depth to bedrock	1.00			Too clayey	0.50
		Seepage, bottom layer	1.00				
		Too clayey	0.50				
CawA: Carwile-----	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Ponding	1.00	Hard to compact	1.00
		Ponding	1.00			Ponding	1.00
CVRD: Cottonwood-----	42	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Vinson-----	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DeSD: Devol-----	60	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.88
Springer-----	27	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
DkuA: Duke-----	80	Very limited Flooding Too clayey Excess sodium	1.00 1.00 1.00	Very limited Flooding	1.00	Very limited Too clayey Hard to compact Sodium content	1.00 1.00 1.00
DodA: Dodson-----	92	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
DodB: Dodson-----	87	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
EatA: Eastall-----	94	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Too clayey Hard to compact Ponding	1.00 1.00 1.00 1.00
EdsB: Eda-----	87	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
EdsD: Eda-----	87	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
EdsF: Eda-----	90	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
FraB: Frankirk-----	90	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
FryB: Farry-----	92	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GdfB: Grandfield-----	80	Very limited Seepage, bottom layer	1.00	Not limited		Somewhat limited Seepage	0.52
GlGB: Grandmore-----	65	Somewhat limited Depth to saturated zone	0.01	Not limited		Not limited	
Grandfield-----	25	Very limited Seepage, bottom layer	1.00	Not limited		Not limited	
GlsB: Grandfield-----	87	Very limited Seepage, bottom layer	1.00	Not limited		Very limited Seepage	1.00
GlsD: Grandfield-----	87	Very limited Seepage, bottom layer	1.00	Not limited		Very limited Seepage	1.00
GmuA: Gracemont, saline---	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.22
		Seepage, bottom layer	1.00	Seepage	1.00		
GmwA: Gracemont, saline---	89	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	0.50
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
		Too sandy	0.50				
GrrA: Gracemore, saline---	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00				
GtbB: Gotebo-----	82	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
HdmB: Hardeman-----	90	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HdmC: Hardeman-----	95	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
HfkA: Hayfork-----	83	Very limited Too clayey Flooding	1.00 0.40	Somewhat limited Flooding	0.40	Very limited Too clayey	1.00
HksA: Headrick-----	90	Somewhat limited Depth to saturated zone Too clayey	0.76 0.50	Somewhat limited Depth to saturated zone	0.08	Very limited Hard to compact  Too clayey Depth to saturated zone	1.00  0.50 0.32
HolA: Hollister-----	91	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
HrAC: Harmon-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Carbonate content	1.00 1.00
Aspermont-----	44	Very limited Depth to bedrock Too clayey	1.00 0.50	Somewhat limited Depth to bedrock	0.42	Somewhat limited Too clayey Depth to bedrock	0.50 0.42
HSAF: Hardeman-----	50	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage  Slope	1.00 0.01	Very limited Seepage  Slope	1.00  0.01
Southside-----	27	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.16	Very limited Seepage  Slope	1.00 0.16	Very limited Too sandy  Seepage Slope	1.00  1.00 0.16
Arnett-----	20	Very limited Seepage, bottom layer	1.00	Not limited		Not limited	
JesC: Jester-----	87	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy  Seepage	1.00  1.00
KcRG: Knoco, bouldery----	45	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	



# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KoBE: Knoco-----	45	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Very limited Depth to bedrock Slope	1.00 0.16	Somewhat limited Slope	0.16	Very limited Depth to bedrock Slope	1.00 0.16
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16
LacB: La Casa-----	79	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
LnuA: Lincoln-----	90	Very limited Flooding Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Very limited Too sandy Seepage	1.00 1.00
LnWA: Lincoln-----	65	Very limited Flooding Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Very limited Too sandy Seepage	1.00 1.00
Westola-----	22	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Somewhat limited Seepage	0.88
LwtA: Lawton-----	87	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
LwtB: Lawton-----	87	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
LwtC2: Lawton, moderately eroded-----	77	Somewhat limited  Too clayey	 0.50	Not limited		Somewhat limited  Too clayey	 0.50
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Very limited Seepage, bottom layer	1.00	Not limited		Somewhat limited Seepage	0.22

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MdgB: Madge-----	90	Very limited Seepage, bottom layer	1.00	Not limited		Not limited	
MknB: Mcknight-----	87	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.18	Somewhat limited Depth to bedrock	0.18
MktB: Mcknight-----	85	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	0.23	Very limited Too clayey Depth to bedrock	1.00 0.23
MktC2: Mcknight, moderately eroded-----	75	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.32	Somewhat limited Depth to bedrock	0.32
NpsB: Nipsum-----	82	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
NstC: Nobscot-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
OakA: Oakley-----	80	Very limited Seepage, bottom layer	1.00	Not limited		Not limited	
OakB: Oakley-----	85	Not limited		Not limited		Not limited	
OzKA: Ozark-----	85	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Talpa-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
QnRG: Quinlan-----	50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Very limited Seepage, bottom layer	1.00	Not limited		Somewhat limited Too clayey	0.50

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Very limited Slope Large stones content Too clayey	1.00 0.81 0.50	Very limited Slope	1.00	Very limited Too clayey Slope Large stones content Gravel content	1.00 1.00 0.81 0.01
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone Too clayey	0.96 0.50
RuwA: Rups-----	82	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.47
SKRG: Spikebox-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Knoco-----	23	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
Devol-----	22	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
SplA: Spur-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Somewhat limited Seepage	0.22
SurA: Spur-----	84	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SuuA: Spur-----	90	Very limited Flooding Too clayey	1.00 0.50	Very limited Flooding	1.00	Somewhat limited Too clayey	0.50
SuwA: Spur-----	87	Very limited Flooding Too clayey	1.00 0.50	Very limited Flooding	1.00	Somewhat limited Too clayey	0.50
TARD: Talpa-----	46	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Aspermont-----	37	Very limited Depth to bedrock Too clayey	1.00 0.50	Somewhat limited Depth to bedrock	0.96	Somewhat limited Depth to bedrock Too clayey	0.96 0.50
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
TilB: Tillman-----	85	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
TipA: Tipton-----	80	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
TlvB: Tilvern-----	85	Very limited Depth to bedrock Too clayey	1.00 1.00	Somewhat limited Depth to bedrock	0.32	Very limited Too clayey Hard to compact Depth to bedrock	1.00 1.00 0.32
TpfA: Tipton-----	90	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
TrwB: Treadway-----	87	Very limited Too clayey Excess sodium	1.00 1.00	Not limited		Very limited Too clayey Hard to compact Sodium content	1.00 1.00 1.00
VeKE: Vernon-----	50	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Too clayey Depth to bedrock	1.00 1.00
Knoco-----	35	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VerC: Vernon-----	78	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Too clayey Depth to bedrock	1.00 1.00
VeTE: Vernon-----	53	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Too clayey Depth to bedrock	1.00 1.00
Talpa, stony-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Very limited Depth to bedrock Seepage, bottom layer Too clayey	1.00 1.00 0.50	Very limited Seepage Depth to bedrock	1.00 0.14	Somewhat limited Too clayey Depth to bedrock	0.50 0.14
WooB: Woodward-----	87	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
WooC: Woodward-----	90	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
WoQE: Woodward-----	50	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04
Quinlan-----	37	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04
WslA: Westola-----	90	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Somewhat limited Seepage	0.52
WstA: Westola-----	92	Very limited Seepage, bottom layer Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Somewhat limited Seepage	0.52
Wt1A: Westill-----	85	Very limited Too clayey Depth to bedrock	1.00 1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Sanitary Facilities, Part II--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Wt1B: Westill-----	83	Very limited Too clayey Depth to bedrock	1.00 1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The table, "Building Site Development, Parts I and II," shows the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that

affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.



# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Not limited		Somewhat limited Depth to saturated zone	0.31	Not limited	
ArHF: Arnett-----	45	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell Slope	0.22 0.12
Hardeman-----	40	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
ArnB: Arnett-----	85	Somewhat limited Shrink-swell	0.22	Not limited		Somewhat limited Shrink-swell	0.22
ArnC: Arnett-----	83	Not limited		Not limited		Not limited	
AsmB: Aspermont-----	80	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22
AsmC: Aspermont-----	81	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22
BekA: Beckman-----	85	Very limited Flooding Shrink-swell	1.00 0.94	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.94 0.47	Very limited Flooding Shrink-swell	1.00 0.94
BfdB: Burford-----	90	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
BfdC: Burford-----	92	Very limited Shrink-swell	1.00	Not limited		Very limited Shrink-swell	1.00
BfSC2: Burford, moderately eroded-----	50	Somewhat limited  Shrink-swell	 0.50	Not limited		Somewhat limited  Shrink-swell	 0.50
Spikebox, moderately eroded-----	40	Somewhat limited  Depth to soft bedrock	 0.50	Very limited  Depth to soft bedrock	 1.00	Somewhat limited  Depth to soft bedrock	 1.00

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfSE: Burford-----	50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
Spikebox-----	40	Somewhat limited Depth to soft bedrock Slope	0.50  0.01	Very limited Depth to soft bedrock Slope	1.00  0.01	Very limited Depth to soft bedrock Slope	1.00  1.00
BriE: Brico-----	85	Somewhat limited Shrink-swell Large stones content Slope	0.50 0.28 0.16	Somewhat limited Shrink-swell Large stones content Slope	0.50 0.28 0.16	Very limited Slope Shrink-swell  Large stones content	1.00  0.50  0.28
BukA: Bukreek-----	92	Somewhat limited Shrink-swell	0.22	Not limited		Somewhat limited Shrink-swell	0.22
CarB: Carey-----	90	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22
CawA: Carwile-----	90	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.94	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.94
CVRD: Cottonwood-----	42	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
Vinson-----	25	Somewhat limited Depth to hard bedrock Shrink-swell	0.64  0.50	Very limited Depth to hard bedrock Shrink-swell	1.00  0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.64  0.50
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Not limited		Not limited		Somewhat limited Slope	0.28
Springer-----	27	Not limited		Not limited		Somewhat limited Slope	0.12
DkuA: Duke-----	80	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DodA: Dodson-----	92	Somewhat limited Shrink-swell	1.00	Somewhat limited Shrink-swell	1.00	Somewhat limited Shrink-swell	1.00
DodB: Dodson-----	87	Very limited Shrink-swell	1.00	Somewhat limited Shrink-swell	0.94	Very limited Shrink-swell	1.00
EatA: Eastall-----	94	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
EdsB: Eda-----	87	Not limited		Not limited		Not limited	
EdsD: Eda-----	87	Not limited		Not limited		Somewhat limited Slope	0.12
EdsF: Eda-----	90	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
FraB: Frankirk-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
FryB: Farry-----	92	Somewhat limited Shrink-swell	0.06	Somewhat limited Shrink-swell	0.06	Somewhat limited Shrink-swell	0.06
GdfB: Grandfield-----	80	Not limited		Not limited		Not limited	
GlGB: Grandmore-----	65	Not limited		Somewhat limited Depth to saturated zone	0.69	Not limited	
Grandfield-----	25	Not limited		Not limited		Not limited	
GlsB: Grandfield-----	87	Not limited		Not limited		Not limited	
GlsD: Grandfield-----	87	Not limited		Not limited		Somewhat limited Slope	0.12
GmuA: Gracemont, saline---	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GmwA: Gracemont, saline---	89	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
GrrA: Gracemore, saline---	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
GtbB: Gotebo-----	82	Not limited		Somewhat limited Depth to soft bedrock	0.79	Not limited	
HdmB: Hardeman-----	90	Not limited		Not limited		Not limited	
HdmC: Hardeman-----	95	Not limited		Not limited		Not limited	
HfkA: Hayfork-----	83	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
HksA: Headrick-----	90	Not limited		Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Not limited	
HolA: Hollister-----	91	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
HrAC: Harmon-----	50	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
Aspermont-----	44	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22
HSAF: Hardeman-----	50	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
Southside-----	27	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Arnett-----	20	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.22	Somewhat limited Slope Shrink-swell	0.88 0.22
JesC: Jester-----	87	Not limited		Not limited		Not limited	

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KcRG: Knoco, bouldery-----	45	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Slope	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Depth to soft bedrock	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE: Knoco-----	45	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
LacB: La Casa-----	79	Somewhat limited Shrink-swell	0.94	Somewhat limited Shrink-swell	0.22	Somewhat limited Shrink-swell	0.94
LnuA: Lincoln-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
LnWA: Lincoln-----	65	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Westola-----	22	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
LwtA: Lawton-----	87	Somewhat limited Shrink-swell	0.99	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.99
LwtB: Lawton-----	87	Somewhat limited Shrink-swell	0.94	Somewhat limited Shrink-swell	0.99	Somewhat limited Shrink-swell	0.94
LwtC2: Lawton, moderately eroded-----	77	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.94	Shrink-swell	0.94	Shrink-swell	0.94
						Slope	0.03

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Not limited		Not limited		Not limited	
MdgB: Madge-----	90	Not limited		Not limited		Not limited	
MknB: Mcknight-----	87	Not limited		Not limited		Not limited	
MktB: Mcknight-----	85	Not limited		Not limited		Not limited	
MktC2: Mcknight, moderately eroded-----	75	Not limited		Not limited		Not limited	
NpsB: Nipsum-----	82	Somewhat limited Shrink-swell	0.94	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.94
NstC: Nobscot-----	85	Not limited		Not limited		Not limited	
OakA: Oakley-----	80	Not limited		Not limited		Not limited	
OakB: Oakley-----	85	Not limited		Not limited		Not limited	
OzKA: Ozark-----	85	Somewhat limited Shrink-swell	0.22	Somewhat limited Depth to saturated zone Shrink-swell	0.53 0.22	Somewhat limited Shrink-swell	0.22
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Not limited		Not limited		Not limited	
Talpa-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
QnRG: Quinlan-----	50	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Slope	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Depth to soft bedrock	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RakA: Roark-----	85	Somewhat limited Shrink-swell	0.78	Not limited		Somewhat limited Shrink-swell	0.78
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.39	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.39	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.39
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.81 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.81 0.50
RuwA: Rups-----	82	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
SKRG: Spikebox-----	40	Very limited Slope  Depth to soft bedrock	1.00  0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope  Depth to soft bedrock	1.00  1.00
Knoco-----	23	Very limited Slope  Depth to soft bedrock	1.00  0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope  Depth to soft bedrock	1.00  1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Not limited		Not limited		Not limited	
Devol-----	22	Not limited		Not limited		Not limited	
SplA: Spur-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SurA: Spur-----	84	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
SuuA: Spur-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
SuwA: Spur-----	87	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
TARD: Talpa-----	46	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
Aspermont-----	37	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
TilB: Tillman-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
TipA: Tipton-----	80	Not limited		Not limited		Not limited	
TlvB: Tilvern-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
TpfA: Tipton-----	90	Not limited		Not limited		Not limited	
TrwB: Treadway-----	87	Somewhat limited Shrink-swell	0.78	Somewhat limited Shrink-swell	0.78	Somewhat limited Shrink-swell	0.78
VeKE: Vernon-----	50	Very limited Shrink-swell	1.00	Somewhat limited Depth to soft bedrock	0.79	Very limited Shrink-swell	1.00
Knoco-----	35	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock Slope	1.00 0.50
VerC: Vernon-----	78	Very limited Shrink-swell	1.00	Somewhat limited Depth to soft bedrock	0.10	Very limited Shrink-swell	1.00



# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part I--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VeTE: Vernon-----	53	Very limited Shrink-swell	1.00	Somewhat limited Depth to soft bedrock	0.01	Very limited Shrink-swell  Slope	1.00  0.12
Talpa, stony-----	25	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.12
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Somewhat limited Shrink-swell	0.78	Somewhat limited Shrink-swell	0.78	Somewhat limited Shrink-swell	0.78
WooB: Woodward-----	87	Not limited		Somewhat limited Depth to soft bedrock	0.01	Not limited	
WooC: Woodward-----	90	Not limited		Somewhat limited Depth to soft bedrock	0.64	Not limited	
WoQE: Woodward-----	50	Somewhat limited Slope	0.04	Somewhat limited Depth to soft bedrock Slope	0.79 0.04	Very limited Slope	1.00
Quinlan-----	37	Somewhat limited Depth to soft bedrock Slope	0.50 0.04	Very limited Depth to soft bedrock Slope	1.00 0.04	Very limited Depth to soft bedrock Slope	1.00 1.00
WslA: Westola-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
WstA: Westola-----	92	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
WtlA: Westill-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
WtlB: Westill-----	83	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Very limited Low strength	1.00	Somewhat limited Depth to saturated zone Cutbanks cave	0.31 0.10	Not limited	
ArHF: Arnett-----	45	Somewhat limited Low strength Shrink-swell	0.78 0.22	Very limited Cutbanks cave	1.00	Not limited	
Hardeman-----	40	Somewhat limited Slope	0.01	Somewhat limited Cutbanks cave Slope	0.10 0.01	Somewhat limited Slope	0.01
ArnB: Arnett-----	85	Somewhat limited Low strength Shrink-swell	0.78 0.22	Somewhat limited Cutbanks cave	0.10	Not limited	
ArnC: Arnett-----	83	Not limited		Very limited Cutbanks cave	1.00	Not limited	
AsmB: Aspermont-----	80	Very limited Low strength Shrink-swell	1.00 0.22	Somewhat limited Dense layer Cutbanks cave Too clayey	0.50 0.10 0.02	Not limited	
AsmC: Aspermont-----	81	Very limited Low strength Shrink-swell	1.00 0.22	Somewhat limited Dense layer Cutbanks cave Too clayey	0.50 0.10 0.02	Not limited	
BekA: Beckman-----	85	Very limited Flooding Low strength Shrink-swell	1.00 1.00 0.94	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.60 0.47 0.10	Very limited Too clayey Sodium content Flooding	1.00 1.00 0.60
BfdB: Burford-----	90	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Dense layer Cutbanks cave Too clayey	0.50 0.10 0.02	Not limited	
BfdC: Burford-----	92	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Dense layer Cutbanks cave Too clayey	0.50 0.10 0.02	Not limited	

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfSC2: Burford, moderately eroded-----	50	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Dense layer	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Spikebox, moderately eroded-----	40	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
				Dense layer	0.50	Droughty	0.96
				Cutbanks cave	0.10		
BfSE: Burford-----	50	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Dense layer	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Spikebox-----	40	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Slope	0.01	Dense layer	0.50	Droughty	0.99
				Cutbanks cave	0.10	Slope	0.01
				Slope	0.01		
BriE: Brico-----	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Large stones	0.28	Large stones	0.68
		Large stones	0.28	content		content	
		Slope	0.16	Slope	0.16	Slope	0.16
				Too clayey	0.12		
				Cutbanks cave	0.10		
BukA: Bukreek-----	92	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.22				
CarB: Carey-----	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.22				
CawA: Carwile-----	90	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Low strength	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.94				
CVRD: Cottonwood-----	42	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
				Dense layer	0.50	Droughty	1.00
				Cutbanks cave	0.10		

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Vinson-----	25	Very limited Low strength	1.00	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to bedrock	0.65
		Depth to hard bedrock	0.64	Dense layer	0.50		
		Shrink-swell	0.50				
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Springer-----	27	Not limited		Very limited Cutbanks cave	1.00	Not limited	
DkuA: Duke-----	80	Very limited Flooding	1.00	Very limited Cutbanks cave	1.00	Very limited Sodium content	1.00
		Low strength	1.00	Flooding	0.60	Too clayey	1.00
		Shrink-swell	1.00	Too clayey	0.50	Flooding	0.60
DodA: Dodson-----	92	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
		Shrink-swell	1.00				
DodB: Dodson-----	87	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
		Shrink-swell	1.00	Too clayey	0.02		
EatA: Eastall-----	94	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	1.00	Too clayey	1.00
		Shrink-swell	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Too clayey	0.32		
EdsB: Eda-----	87	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Too sandy	0.91 0.50
EdsD: Eda-----	87	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Too sandy	0.92 0.50

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EdsF: Eda-----	90	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Droughty Slope Too sandy	0.97 0.63 0.50
FraB: Frankirk-----	90	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
FryB: Farry-----	92	Very limited Low strength Shrink-swell	1.00 0.06	Somewhat limited Cutbanks cave	0.10	Not limited	
GdfB: Grandfield-----	80	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
GlGB: Grandmore-----	65	Not limited		Somewhat limited Depth to saturated zone Cutbanks cave	0.69 0.10	Not limited	
Grandfield-----	25	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
GlsB: Grandfield-----	87	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
GlsD: Grandfield-----	87	Not limited		Very limited Cutbanks cave	1.00	Not limited	
GmuA: Gracemont, saline---	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Salinity Depth to saturated zone Flooding	1.00 1.00 0.60
GmwA: Gracemont, saline---	89	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.80	Very limited Flooding Salinity Depth to saturated zone	1.00 1.00 1.00

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GrrA: Gracemore, saline---	90	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Salinity	1.00
		Depth to saturated zone	0.83	Cutbanks cave	1.00	Depth to saturated zone	0.83
				Flooding	0.60	Flooding	0.60
						Droughty	0.34
GtbB: Gotebo-----	82	Not limited		Somewhat limited Depth to soft bedrock	0.79	Somewhat limited Depth to bedrock	0.80
				Dense layer	0.50		
				Cutbanks cave	0.10		
HdmB: Hardeman-----	90	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
HdmC: Hardeman-----	95	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
HfkA: Hayfork-----	83	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
		Shrink-swell	1.00	Too clayey	0.02		
		Flooding	0.40				
HksA: Headrick-----	90	Not limited		Somewhat limited Depth to saturated zone	0.99	Not limited	
				Cutbanks cave	0.10		
HolA: Hollister-----	91	Very limited Low strength	1.00	Very limited Cutbanks cave	1.00	Not limited	
		Shrink-swell	1.00	Too clayey	0.03		
HrAC: Harmon-----	50	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
				Dense layer	0.50	Carbonate content	1.00
				Cutbanks cave	0.10	Droughty	1.00
Aspermont-----	44	Very limited Low strength	1.00	Somewhat limited Dense layer	0.50	Not limited	
		Shrink-swell	0.22	Cutbanks cave	0.10		
				Too clayey	0.02		
HSAF: Hardeman-----	50	Somewhat limited Slope	0.01	Very limited Cutbanks cave	1.00	Somewhat limited Slope	0.01
				Slope	0.01		

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Southside-----	27	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Droughty Slope	0.98 0.16
Arnett-----	20	Somewhat limited Shrink-swell	0.22	Very limited Cutbanks cave	1.00	Not limited	
JesC: Jester-----	87	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.99
KcRG: Knoco, bouldery----	45	Very limited Depth to soft bedrock Slope Low strength	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Too clayey Dense layer Cutbanks cave	1.00 1.00 0.50 0.50 0.10	Very limited Droughty Depth to bedrock Slope Too clayey Large stones content	1.00 1.00 1.00 1.00 0.16
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE: Knoco-----	45	Very limited Depth to soft bedrock Low strength	1.00 1.00	Very limited Depth to soft bedrock Too clayey Dense layer Cutbanks cave	1.00 0.50 0.50 0.10	Very limited Depth to bedrock Droughty Too clayey	1.00 1.00 1.00
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Very limited Depth to soft bedrock Low strength Slope	1.00 1.00 0.16	Very limited Depth to soft bedrock Too clayey Dense layer Slope Cutbanks cave	1.00 0.50 0.50 0.16 0.10	Very limited Depth to bedrock Droughty Too clayey Slope	1.00 1.00 1.00 0.16
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to hard bedrock Low strength Slope	1.00 0.22 0.16	Very limited Depth to hard bedrock Dense layer Slope Cutbanks cave	1.00 0.50 0.16 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.16
LacB: La Casa-----	79	Very limited Low strength Shrink-swell	1.00 0.94	Somewhat limited Cutbanks cave Too clayey	0.10 0.02	Not limited	

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LnuA: Lincoln-----	90	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding	1.00 0.60	Somewhat limited Droughty Flooding	0.97 0.60
LnWA: Lincoln-----	65	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding	1.00 0.80	Very limited Flooding Droughty	1.00 0.99
Westola-----	22	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding	1.00 0.80	Very limited Flooding	1.00
LwtA: Lawton-----	87	Very limited Low strength Shrink-swell	1.00 0.99	Very limited Cutbanks cave	1.00	Not limited	
LwtB: Lawton-----	87	Very limited Low strength Shrink-swell	1.00 0.94	Very limited Cutbanks cave	1.00	Not limited	
LwtC2: Lawton, moderately eroded-----	77	Very limited  Low strength Shrink-swell	 1.00 0.94	Very limited  Cutbanks cave	 1.00	Not limited	
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
MdgB: Madge-----	90	Not limited		Very limited Cutbanks cave	1.00	Not limited	
MknB: Mcknight-----	87	Not limited		Somewhat limited Dense layer Too clayey Cutbanks cave	0.50 0.12 0.10	Not limited	
MktB: Mcknight-----	85	Not limited		Somewhat limited Dense layer Too clayey Cutbanks cave	0.50 0.12 0.10	Not limited	
MktC2: Mcknight, moderately eroded-----	75	Not limited		Somewhat limited  Dense layer Cutbanks cave Too clayey	 0.50 0.10 0.02	Not limited	



# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NpsB: Nipsum-----	82	Very limited Low strength Shrink-swell	1.00 0.94	Somewhat limited Cutbanks cave Too clayey	0.10 0.02	Not limited	
NstC: Nobscot-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Too sandy Droughty	0.50 0.40
OakA: Oakley-----	80	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
OakB: Oakley-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
OzKA: Ozark-----	85	Very limited Low strength  Shrink-swell	1.00  0.22	Somewhat limited Depth to saturated zone Cutbanks cave	0.53  0.10	Not limited	
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quanah-----	50	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
Talpa-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Dense layer Cutbanks cave	1.00 0.50 0.10	Very limited Droughty Depth to bedrock	1.00 1.00
QnRG: Quinlan-----	50	Very limited Depth to soft bedrock Slope	1.00  1.00	Very limited Depth to soft bedrock Slope Dense layer Cutbanks cave	1.00  1.00 0.50 0.10	Very limited Depth to bedrock Slope Droughty	1.00  1.00 0.99
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Very limited Low strength Shrink-swell	1.00 0.78	Somewhat limited Cutbanks cave	0.10	Not limited	
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Brico-----	30	Very limited Slope Shrink-swell  Large stones content	1.00 0.50  0.39	Very limited Slope Large stones content Too clayey  Cutbanks cave	1.00 0.39 0.12 0.10	Very limited Slope Large stones content	1.00 0.68
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Very limited Flooding  Low strength Shrink-swell  Depth to saturated zone	1.00  1.00 0.50  0.48	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00  0.60 0.10	Somewhat limited Flooding  Salinity Depth to saturated zone	0.60  0.50 0.48
RuwA: Rups-----	82	Very limited Flooding  Low strength Shrink-swell	1.00  1.00 0.50	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00  0.80 0.10	Very limited Flooding  Salinity	1.00  0.50
SKRG: Spikebox-----	40	Very limited Depth to soft bedrock Slope	1.00  1.00	Very limited Depth to soft bedrock Slope Dense layer Cutbanks cave	1.00  1.00 0.50 0.10	Very limited Depth to bedrock  Droughty Slope	1.00  1.00 1.00
Knoco-----	23	Very limited Depth to soft bedrock Slope Low strength	1.00  1.00 1.00	Very limited Depth to soft bedrock Slope Too clayey Dense layer Cutbanks cave	1.00  1.00 0.50 0.50 0.10	Very limited Depth to bedrock  Droughty Slope Too clayey	1.00  1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
Devol-----	22	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
SplA: Spur-----	90	Very limited Flooding Low strength	1.00 1.00	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Somewhat limited Flooding	0.60

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SurA: Spur-----	84	Very limited Low strength Flooding	1.00 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
SuuA: Spur-----	90	Very limited Flooding Low strength	1.00 1.00	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Somewhat limited Flooding	0.60
SuwA: Spur-----	87	Very limited Flooding Low strength	1.00 1.00	Somewhat limited Flooding Cutbanks cave	0.80 0.10	Very limited Flooding	1.00
TARD: Talpa-----	46	Very limited Depth to hard bedrock Low strength	1.00 0.22	Very limited Depth to hard bedrock Dense layer Cutbanks cave	1.00 0.50 0.10	Very limited Droughty Depth to bedrock	1.00 1.00
Aspermont-----	37	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Dense layer Cutbanks cave Too clayey	0.50 0.10 0.02	Not limited	
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Very limited Shrink-swell Low strength	1.00 1.00	Somewhat limited Cutbanks cave Too clayey	0.10 0.03	Not limited	
TilB: Tillman-----	85	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Cutbanks cave Too clayey	0.10 0.03	Not limited	
TipA: Tipton-----	80	Somewhat limited Low strength	0.78	Somewhat limited Cutbanks cave	0.10	Not limited	
TlvB: Tilvern-----	85	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Too clayey Dense layer Cutbanks cave	0.50 0.50 0.10	Not limited	
TpfA: Tipton-----	90	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
TrwB: Treadway-----	87	Very limited Low strength Shrink-swell	1.00 0.78	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Very limited Sodium content Droughty	1.00 0.16

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VeKE: Vernon-----	50	Very limited Low strength	1.00	Somewhat limited Depth to soft bedrock	0.79	Somewhat limited Depth to bedrock	0.80
		Shrink-swell	1.00	Too clayey Dense layer Cutbanks cave	0.50 0.50 0.10	Droughty	0.02
Knoco-----	35	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
		Low strength	1.00	Too clayey Dense layer Cutbanks cave	0.50 0.50 0.10	Droughty Too clayey	1.00 1.00
VerC: Vernon-----	78	Very limited Low strength	1.00	Somewhat limited Too clayey	0.50	Somewhat limited Depth to bedrock	0.10
		Shrink-swell	1.00	Dense layer Cutbanks cave Depth to soft bedrock	0.50 0.10 0.10		
VeTE: Vernon-----	53	Very limited Low strength	1.00	Somewhat limited Too clayey	0.50	Somewhat limited Depth to bedrock	0.01
		Shrink-swell	1.00	Dense layer Cutbanks cave Depth to soft bedrock	0.50 0.10 0.01		
Talpa, stony-----	25	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Droughty	1.00
		Low strength	0.22	Dense layer Cutbanks cave	0.50 0.10	Depth to bedrock	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Very limited Low strength	1.00	Somewhat limited Dense layer	0.50	Not limited	
		Shrink-swell	0.78	Cutbanks cave	0.10		
WooB: Woodward-----	87	Not limited		Somewhat limited Dense layer Cutbanks cave Depth to soft bedrock	0.50 0.10 0.01	Somewhat limited Depth to bedrock	0.01
WooC: Woodward-----	90	Not limited		Somewhat limited Depth to soft bedrock Dense layer Cutbanks cave	0.64 0.50 0.10	Somewhat limited Depth to bedrock	0.65

# Soil Survey of Greer County, Oklahoma

## Building Site Development, Part II--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WoQE: Woodward-----	50	Somewhat limited Slope	0.04	Somewhat limited Depth to soft bedrock Dense layer Cutbanks cave Slope	0.79 0.50 0.10 0.04	Somewhat limited Depth to bedrock Slope Droughty	0.80 0.04 0.01
Quinlan-----	37	Somewhat limited Depth to soft bedrock Slope	1.00 0.04	Very limited Depth to soft bedrock Dense layer Cutbanks cave Slope	1.00 0.50 0.10 0.04	Very limited Depth to bedrock Droughty Slope	1.00 0.98 0.04
WslA: Westola-----	90	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding	1.00 0.60	Somewhat limited Flooding	0.60
WstA: Westola-----	92	Somewhat limited Flooding	0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
WtlA: Westill-----	85	Very limited Shrink-swell Low strength	1.00 1.00	Somewhat limited Too clayey Cutbanks cave	0.50 0.10	Not limited	
WtlB: Westill-----	83	Very limited Shrink-swell Low strength	1.00 1.00	Somewhat limited Too clayey Cutbanks cave	0.50 0.10	Not limited	

## Construction Materials

The table, "Construction Materials, Parts I and II," provides information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In this table, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor is factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of good or fair means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

## Soil Survey of Greer County, Oklahoma

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer Or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AceB: Acme-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
ArHF: Arnett-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.02
Hardeman-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
ArnB: Arnett-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.02
ArnC: Arnett-----	83	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.02
AsmB: Aspermont-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
AsmC: Aspermont-----	81	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
BekA: Beckman-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
BfdB: Burford-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
BfdC: Burford-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00



# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
BfSC2: Burford, moderately eroded-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spikebox, moderately eroded-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BfSE: Burford-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spikebox-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BriE: Brico-----	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BukA: Bukreek-----	92	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CarB: Carey-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CawA: Carwile-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
CVRD: Cottonwood-----	42	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Vinson-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	23	Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
DeSD: Devol-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.04 0.10
Springer-----	27	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.01 0.10
DkuA: Duke-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
DodA: Dodson-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
DodB: Dodson-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
EatA: Eastall-----	94	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
EdsB: Eda-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.07 0.26
EdsD: Eda-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.07 0.26
EdsF: Eda-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.25 0.26
FraB: Frankirk-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
FryB: Farry-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
GdfB: Grandfield-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
G1GB: Grandmore-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Grandfield-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
GlsB: Grandfield-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.07
GlsD: Grandfield-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.07
GmuA: Gracemont, saline---	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
GmwA: Gracemont, saline---	89	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.01 0.10
GrrA: Gracemore, saline---	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.02 0.75
GtbB: Gotebo-----	82	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HdmB: Hardeman-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HdmC: Hardeman-----	95	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HfkA: Hayfork-----	83	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HksA: Headrick-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
HolA: Hollister-----	91	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HrAC: Harmon-----	50	Not rated Bottom layer	0.00	Not rated Bottom layer	0.00
Aspermont-----	44	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
HSAF: Hardeman-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.01 0.05
Southside-----	27	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.07 0.79
Arnett-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.05
JesC: Jester-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.28 0.72
KcRG: Knoco, bouldery----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
KoBE: Knoco-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Badland-----	30	Not rated		Not rated	
KRCF: Knoco-----	33	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	21	Not rated		Not rated	
Cottonwood-----	17	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
LacB: La Casa-----	79	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LnuA: Lincoln-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.25 0.75
LnWA: Lincoln-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.08 0.38
Westola-----	22	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.10
LwtA: Lawton-----	87	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LwtB: Lawton-----	87	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
LwtC2: Lawton, moderately eroded-----	77	Poor  Bottom layer Thickest layer	  0.00 0.00	Poor  Bottom layer Thickest layer	  0.00 0.00
M-W: Water, Miscellaneous	100	Not rated		Not rated	
MagB: Madge-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
MdgB: Madge-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.64
MknB: Mcknight-----	87	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
MktB: Mcknight-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
MktC2: Mcknight, moderately eroded-----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NpsB: Nipsum-----	82	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NstC: Nobscot-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.72
OakA: Oakley-----	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
OakB: Oakley-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ozka: Ozark-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PIT: Pits-----	100	Not rated		Not rated	
QhTC: Quanah-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Talpa-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
QnRG: Quinlan-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	25	Not rated		Not rated	
RakA: Roark-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated	
Brico-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RKO: Rock outcrop, granite-----	100	Not rated		Not rated	
RuuA: Rups-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
RuwA: Rups-----	82	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SKRG: Spikebox-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Knoco-----	23	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
SpDB: Springer-----	70	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.01
Devol-----	22	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.11
		Thickest layer	0.00	Bottom layer	0.14
SplA: Spur-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SurA: Spur-----	84	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SuuA: Spur-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
SuwA: Spur-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
TARD: Talpa-----	46	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Aspermont-----	37	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	11	Not rated		Not rated	
TilA: Tillman-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
TilB: Tillman-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
TipA: Tipton-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
TlvB: Tilvern-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
TpfA: Tipton-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
TrwB: Treadway-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
VeKE: Vernon-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Knoco-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
VerC: Vernon-----	78	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00



# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part I--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
VeTE: Vernon-----	53	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Talpa, stony-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
W: Water-----	100	Not rated		Not rated	
WlwB: Willow-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
WooB: Woodward-----	87	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
WooC: Woodward-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
WoQE: Woodward-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Quinlan-----	37	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
WslA: Westola-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.02
WstA: Westola-----	92	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.01 0.02
WtlA: Westill-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
WtlB: Westill-----	83	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Fair Organic matter content low Water erosion	0.50 0.99	Poor Low strength	0.00	Fair Sodium content	0.90
ArHF: Arnett-----	45	Fair Organic matter content low	0.32	Fair Low strength	0.22	Fair Hard to reclaim (rock fragments)	0.92
Hardeman-----	40	Fair Organic matter content low	0.18	Good		Fair Slope	0.99
ArnB: Arnett-----	85	Fair Organic matter content low	0.08	Good		Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.92
ArnC: Arnett-----	83	Fair Organic matter content low	0.08	Good		Poor Rock fragments	0.00
AsmB: Aspermont-----	80	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.61 0.95	Good	
AsmC: Aspermont-----	81	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.58 0.96	Good	
BekA: Beckman-----	85	Poor Too clayey Sodium content Salinity Organic matter content low Water erosion	0.00 0.00 0.28 0.50 0.99	Poor Low strength Shrink-swell	0.00 0.63	Poor Too clayey Sodium content Salinity	0.00 0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfdB: Burford-----	90	Fair		Poor		Fair	
		Organic matter content low	0.05	Low strength	0.00	Too clayey	0.53
		Too clayey	0.92	Depth to bedrock	0.07		
		Water erosion	0.99	Shrink-swell	0.91		
BfdC: Burford-----	92	Fair		Poor		Good	
		Organic matter content low	0.05	Low strength	0.00		
		Water erosion	0.99	Depth to bedrock	0.00		
				Shrink-swell	0.92		
BfSC2: Burford, Eroded----	50	Fair		Poor		Fair	
		Organic matter content low	0.05	Low strength	0.00	Too clayey	0.53
		Too clayey	0.92	Depth to bedrock	0.00		
		Water erosion	0.99	Shrink-swell	0.97		
Spikebox, Eroded----	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00				
		Organic matter content low	0.50				
		Water erosion	0.99				
BfSE: Burford-----	50	Fair		Poor		Good	
		Organic matter content low	0.12	Low strength	0.00		
		Water erosion	0.99	Shrink-swell	0.82		
				Depth to bedrock	0.98		
Spikebox-----	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00				
		Organic matter content low	0.50				
		Water erosion	0.99				
BriE: Brico-----	85	Fair		Poor		Poor	
		Too clayey	0.08	Cobble content	0.00	Hard to reclaim (rock fragments)	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Rock fragments	0.00
		Cobble content	0.25			Too clayey	0.06
						Slope	0.84
BukA: Bukreek-----	92	Fair		Poor		Fair	
		Carbonate content	0.32	Low strength	0.00	Too clayey	0.66
		Organic matter content low	0.32				
		Too clayey	0.92				
		Water erosion	0.99				

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CarB: Carey-----	90	Fair Organic matter content low Water erosion	0.92 0.99	Poor Low strength	0.00	Good	
CawA: Carwile-----	90	Fair Organic matter content low Water erosion	0.12 0.99	Poor Wetness depth Low strength Shrink-swell	0.00 0.22 0.90	Poor Wetness depth	0.00
CVRD: Cottonwood-----	42	Poor Droughty Depth to bedrock Organic matter content low Water erosion	0.00 0.00 0.88 0.99	Poor Depth to bedrock	0.00	Poor Depth to bedrock	0.00
Vinson-----	25	Fair Droughty Depth to bedrock Water erosion	0.35 0.35 0.99	Poor Depth to bedrock Low strength	0.00 0.00	Fair Depth to bedrock	0.35
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Poor Wind erosion Organic matter content low Too sandy	0.00 0.24 0.78	Good		Fair Too sandy	0.78
Springer-----	27	Poor Wind erosion Organic matter content low Too acid	0.00 0.18 0.92	Good		Good	
DkuA: Duke-----	80	Poor Sodium content Too clayey Organic matter content low Water erosion	0.00 0.00 0.50 0.99	Poor Low strength Shrink-swell	0.00 0.52	Poor Sodium content Too clayey Salinity	0.00 0.00 0.12
DodA: Dodson-----	92	Fair Too clayey Too acid Water erosion	0.08 0.99 0.99	Poor Low strength Shrink-swell	0.00 0.61	Fair Too clayey	0.07

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DodB: Dodson-----	87	Poor Too clayey Organic matter content low Too acid Water erosion	 0.00 0.88  0.99 0.99	Poor Low strength Shrink-swell	 0.00 0.58	Poor Too clayey	 0.00
EatA: Eastall-----	94	Poor Too clayey Organic matter content low Water erosion	 0.00 0.60  0.99	Poor Wetness depth Low strength Shrink-swell	 0.00 0.00 0.00	Poor Too clayey Wetness depth	 0.00 0.00
EdsB: Eda-----	87	Poor Wind erosion Organic matter content low Too sandy Droughty	 0.00 0.12  0.38 0.73	Good		Fair Too sandy	 0.38
EdsD: Eda-----	87	Poor Wind erosion Organic matter content low Too sandy Droughty	 0.00 0.12  0.38 0.77	Good		Fair Too sandy	 0.38
EdsF: Eda-----	90	Poor Too sandy Wind erosion Organic matter content low Droughty	 0.00 0.00 0.12  0.64	Good		Poor Too sandy Slope	 0.00 0.37
FraB: Frankirk-----	90	Fair Too clayey Organic matter content low Water erosion	 0.02 0.88  0.99	Poor Low strength Shrink-swell	 0.00 0.94	Fair Too clayey	 0.01
FryB: Farry-----	92	Fair Organic matter content low Water erosion	 0.88  0.99	Poor Low strength Shrink-swell	 0.00 0.99	Good	
GdfB: Grandfield-----	80	Fair Organic matter content low	 0.50	Good		Good	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
G1GB: Grandmore-----	65	Poor Wind erosion Organic matter content low	0.00 0.82	Good		Good	
Grandfield-----	25	Poor Wind erosion Organic matter content low	0.00 0.50	Good		Good	
GlsB: Grandfield-----	87	Poor Wind erosion Organic matter content low	0.00 0.12	Good		Good	
GlsD: Grandfield-----	87	Poor Wind erosion Organic matter content low	0.00 0.50	Good		Good	
GmuA: Gracemont, saline---	90	Fair Organic matter content low Salinity	0.12 0.88	Poor Wetness depth	0.00	Poor Salinity Wetness depth	0.00 0.00
GmwA: Gracemont, saline---	89	Fair Organic matter content low Salinity	0.12 0.88	Poor Wetness depth	0.00	Poor Salinity Wetness depth	0.00 0.00
GrrA: Gracemore, saline---	90	Poor Too sandy Organic matter content low Salinity Droughty	0.00 0.02 0.88 0.98	Fair Wetness depth	0.09	Poor Too sandy Wetness depth Salinity	0.00 0.09 0.50
GtbB: Gotebo-----	82	Fair Organic matter content low Depth to bedrock Droughty Water erosion	0.05 0.21 0.86 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.21
HdmB: Hardeman-----	90	Fair Organic matter content low	0.18	Good		Good	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HdmC: Hardeman-----	95	Fair Organic matter content low	0.18	Good		Good	
HfkA: Hayfork-----	83	Poor Too clayey Water erosion	0.00 0.99	Poor Low strength Shrink-swell	0.00 0.47	Poor Too clayey	0.00
HksA: Headrick-----	90	Poor Wind erosion Organic matter content low	0.00 0.50	Poor Low strength Wetness depth Shrink-swell	0.00 0.95 0.99	Fair Wetness depth	0.95
HolA: Hollister-----	91	Poor Too clayey Organic matter content low Water erosion	0.00 0.50 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
HrAC: Harmon-----	50	Poor Droughty Carbonate content Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.18	Poor Depth to bedrock	0.00	Poor Carbonate content Rock fragments Depth to bedrock	0.00 0.00 0.00
Aspermont-----	44	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.58 0.96	Good	
HSAF: Hardeman-----	50	Fair Organic matter content low	0.18	Good		Fair Slope	0.99
Southside-----	27	Fair Organic matter content low Droughty Too sandy	0.02 0.34 0.42	Good		Poor Rock fragments Too sandy Slope	0.00 0.42 0.84
Arnett-----	20	Fair Organic matter content low	0.02	Good		Good	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
JesC: Jester-----	87	Poor Too sandy Wind erosion Organic matter content low Droughty	0.00 0.00 0.12 0.32	Good		Poor Too sandy	0.00
KcRG: Knoco, bouldery-----	45	Poor Too clayey Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.05	Poor Depth to bedrock Low strength Slope	0.00 0.00 0.50	Poor Too clayey Depth to bedrock Slope	0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE: Knoco-----	45	Poor Too clayey Depth to bedrock Droughty Organic matter content low	0.00 0.00 0.00 0.05	Poor Depth to bedrock Low strength	0.00 0.00	Poor Too clayey Depth to bedrock	0.00 0.00
Badland-----	30	Not rated		Not rated		Not rated	
KRCF: Knoco-----	33	Poor Too clayey Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.05	Poor Depth to bedrock Low strength	0.00 0.00	Poor Too clayey Depth to bedrock Slope	0.00 0.00 0.84
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Poor Droughty Depth to bedrock Organic matter content low Water erosion	0.00 0.00 0.88 0.99	Poor Depth to bedrock Low strength	0.00 0.78	Poor Depth to bedrock Slope	0.00 0.84
LacB: La Casa-----	79	Poor Too clayey Organic matter content low Carbonate content Water erosion	0.00 0.18 0.68 0.99	Poor Low strength Shrink-swell	0.00 0.83	Poor Too clayey	0.00



# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LnuA: Lincoln-----	90	Poor Too sandy Wind erosion Organic matter content low Droughty	0.00 0.00 0.12 0.38	Good		Poor Too sandy	0.00
LnWA: Lincoln-----	65	Poor Too sandy Wind erosion Organic matter content low Droughty	0.00 0.00 0.12 0.33	Good		Poor Too sandy	0.00
Westola-----	22	Fair Organic matter content low	0.12	Good		Good	
LwtA: Lawton-----	87	Fair Too clayey Organic matter content low	0.12 0.50	Poor Low strength Shrink-swell	0.00 0.74	Fair Too clayey Hard to reclaim (rock fragments)	0.11 0.97
LwtB: Lawton-----	87	Fair Too clayey  Organic matter content low	0.50  0.88	Poor Low strength  Shrink-swell	0.00  0.62	Fair Hard to reclaim (rock fragments) Too clayey	0.32  0.44
LwtC2: Lawton, Eroded-----	77	Fair Too clayey Organic matter content low	0.50 0.88	Poor Low strength Shrink-swell	0.00 0.82	Fair Too clayey Hard to reclaim (rock fragments)	0.36 0.92
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Fair Organic matter content low Water erosion	0.50 0.99	Good		Good	
MdgB: Madge-----	90	Fair Water erosion	0.99	Good		Good	
MknB: Mcknight-----	87	Fair Organic matter content low Water erosion	0.68 0.99	Poor Low strength  Depth to bedrock Shrink-swell	0.00  0.82 0.95	Good	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MktB: Mcknight-----	85	Poor Wind erosion Organic matter content low Too acid Water erosion	0.00 0.05  0.92 0.99	Poor Low strength Depth to bedrock  Shrink-swell	0.00 0.77  0.91	Good	
MktC2: Mcknight, Eroded----	75	Poor Wind erosion Organic matter content low Water erosion	0.00 0.68  0.99	Poor Low strength Depth to bedrock  Shrink-swell	0.00 0.68  0.96	Good	
NpsB: Nipsum-----	82	Fair Too clayey Organic matter content low Water erosion	0.08 0.50  0.99	Poor Low strength Shrink-swell	0.00 0.77	Fair Too clayey	0.08
NstC: Nobscot-----	85	Poor Too sandy Wind erosion Organic matter content low Too acid	0.00 0.00 0.32  0.92	Good		Poor Too sandy	0.00
OakA: Oakley-----	80	Poor Too alkaline Organic matter content low Carbonate content Water erosion	0.00 0.18  0.68 0.99	Good		Fair Carbonate content	0.94
OakB: Oakley-----	85	Poor Too alkaline Organic matter content low Carbonate content Water erosion	0.00 0.18  0.68 0.99	Good		Fair Carbonate content	0.86
OzkA: Ozark-----	85	Fair Too clayey Organic matter content low	0.50 0.50	Poor Low strength Shrink-swell	0.00 0.99	Fair Too clayey	0.33
PIT: Pits-----	100	Not rated		Not rated		Not rated	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
QhTC: Quanah-----	50	Fair Organic matter content low Carbonate content Water erosion	0.18 0.32 0.99	Poor Low strength	0.00	Good	
Talpa-----	20	Poor Droughty Depth to bedrock Carbonate content	0.00 0.00 0.68	Poor Depth to bedrock	0.00	Poor Depth to bedrock Carbonate content	0.00 0.68
QnRG: Quinlan-----	50	Poor Depth to bedrock Droughty Organic matter content low Water erosion	0.00 0.00 0.05 0.99	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Fair Too clayey Organic matter content low Water erosion	0.08 0.50 0.90	Fair Shrink-swell	0.92	Fair Too clayey	0.07
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Poor Too clayey Organic matter content low Cobble content	0.00 0.12 0.19	Poor Cobble content Shrink-swell Slope	0.00 0.87 0.98	Poor Hard to reclaim (rock fragments) Rock fragments Too clayey Slope	0.00 0.00 0.00 0.00
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Poor Salinity Organic matter content low Sodium content Too clayey	0.00 0.50 0.90 0.92	Poor Low strength Wetness depth Shrink-swell	0.00 0.29 0.87	Poor Salinity Wetness depth Too clayey Sodium content	0.00 0.29 0.60 0.90

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RuwA: Rups-----	82	Poor Salinity Organic matter content low Sodium content Too clayey	0.00 0.50 0.90 0.92	Poor Low strength Shrink-swell Wetness depth	0.00 0.87 0.89	Fair Salinity Too clayey Wetness depth	0.50 0.87 0.89
SKRG: Spikebox-----	40	Poor Droughty Depth to bedrock Organic matter content low Water erosion	0.00 0.00 0.50 0.99	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00
Knoco-----	23	Poor Too clayey Depth to bedrock Droughty Organic matter content low	0.00 0.00 0.00 0.05	Poor Depth to bedrock Low strength Slope	0.00 0.00 0.00	Poor Too clayey Depth to bedrock Slope	0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Poor Wind erosion Organic matter content low Too acid	0.00 0.18 0.92	Good		Good	
Devol-----	22	Poor Wind erosion Organic matter content low Too sandy Too acid	0.00 0.02 0.78 0.92	Good		Fair Too sandy	0.78
SplA: Spur-----	90	Fair Organic matter content low Water erosion	0.88 0.99	Good		Good	
SurA: Spur-----	84	Fair Organic matter content low	0.88	Fair Low strength	0.22	Good	
SuuA: Spur-----	90	Fair Organic matter content low Water erosion	0.88 0.99	Poor Low strength	0.00	Good	

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SuwA: Spur-----	87	Fair Organic matter content low	0.88	Fair Low strength	0.22	Good	
TARD: Talpa-----	46	Poor Droughty Depth to bedrock Carbonate content	0.00 0.00 0.68	Poor Depth to bedrock Low strength	0.00 0.78	Poor Depth to bedrock Carbonate content	0.00 0.68
Aspermont-----	37	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.04 0.96	Fair Carbonate content	0.91
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Poor Too clayey Organic matter content low Water erosion Sodium content	0.00 0.18 0.90 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Sodium content	0.00 0.90
TilB: Tillman-----	85	Poor Too clayey Organic matter content low Water erosion	0.00 0.18 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
TipA: Tipton-----	80	Fair Organic matter content low Water erosion	0.50 0.99	Good		Good	
TlvB: Tilvern-----	85	Poor Too clayey Organic matter content low Water erosion	0.00 0.12 0.90	Poor Low strength Shrink-swell Depth to bedrock	0.00 0.29 0.68	Poor Too clayey	0.00
TpfA: Tipton-----	90	Fair Water erosion	0.99	Poor Low strength	0.00	Good	
TrwB: Treadway-----	87	Poor Too clayey Organic matter content low Salinity Water erosion	0.00 0.18 0.50 0.90	Poor Low strength Shrink-swell	0.00 0.82	Poor Too clayey Sodium content Salinity	0.00 0.00 0.00

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VeKE: Vernon-----	50	Poor Too clayey Organic matter content low Depth to bedrock Droughty Water erosion	0.00 0.05  0.21 0.59 0.90	Poor Depth to bedrock Low strength  Shrink-swell	0.00 0.00  0.93	Poor Too clayey Depth to bedrock	0.00 0.21
Knoco-----	35	Poor Too clayey Depth to bedrock Droughty Organic matter content low	0.00 0.00 0.00 0.05	Poor Depth to bedrock Low strength	0.00 0.00	Poor Too clayey Depth to bedrock	0.00 0.00
VerC: Vernon-----	78	Poor Too clayey Organic matter content low Water erosion Depth to bedrock Droughty	0.00 0.05  0.90 0.90 0.97	Poor Depth to bedrock Low strength  Shrink-swell	0.00 0.00  0.76	Poor Too clayey Depth to bedrock	0.00 0.90
VeTE: Vernon-----	53	Poor Too clayey Organic matter content low Water erosion Droughty Depth to bedrock	0.00 0.05  0.90 0.91 0.99	Poor Depth to bedrock Low strength  Shrink-swell	0.00 0.00  0.69	Poor Too clayey Depth to bedrock	0.00 0.99
Talpa, stony-----	25	Poor Droughty Depth to bedrock Carbonate content	0.00 0.00 0.00 0.68	Poor Depth to bedrock Low strength	0.00 0.78	Poor Depth to bedrock Carbonate content	0.00 0.68
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Fair Carbonate content Too clayey Organic matter content low Water erosion	0.68 0.82 0.98  0.99	Fair Depth to bedrock	0.87	Fair Too clayey	0.62
WooB: Woodward-----	87	Fair Organic matter content low Depth to bedrock Water erosion	0.05  0.99 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.99

# Soil Survey of Greer County, Oklahoma

## Construction Materials, Part II--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WooC: Woodward-----	90	Fair Organic matter content low Depth to bedrock Droughty Water erosion	0.05 0.35 0.94 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.35
WoQE: Woodward-----	50	Fair Organic matter content low Depth to bedrock Droughty Water erosion	0.05 0.21 0.63 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock Slope	0.21 0.96
Quinlan-----	37	Poor Depth to bedrock Droughty Organic matter content low Water erosion	0.00 0.00 0.05 0.99	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.96
WslA: Westola-----	90	Fair Organic matter content low	0.12	Good		Good	
WstA: Westola-----	92	Fair Organic matter content low	0.12	Good		Good	
WtlA: Westill-----	85	Poor Too clayey Organic matter content low Water erosion	0.00 0.18 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
WtlB: Westill-----	83	Poor Too clayey Organic matter content low Water erosion	0.00 0.18 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00

## Water Management

The table, "Water Management," provides information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

*Aquifer-fed excavated ponds* are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. depth to bedrock and the content of large stones affect the ease of excavation.



# Soil Survey of Greer County, Oklahoma

## Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AceB: Acme-----	85	Very limited Gypsum content  Seepage	1.00  0.72	Very limited Piping	1.00	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.98  0.28 0.10
ArHF: Arnett-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.02	Very limited Depth to water	1.00
Hardeman-----	40	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
ArnB: Arnett-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.02	Very limited Depth to water	1.00
ArnC: Arnett-----	83	Very limited Seepage	1.00	Somewhat limited Seepage	0.02	Very limited Depth to water	1.00
AsmB: Aspermont-----	80	Somewhat limited Seepage Depth to bedrock	0.54 0.01	Somewhat limited Piping	0.07	Very limited Depth to water	1.00
AsmC: Aspermont-----	81	Somewhat limited Seepage Depth to bedrock	0.54 0.01	Somewhat limited Piping	0.09	Very limited Depth to water	1.00
BekA: Beckman-----	85	Not limited		Very limited Piping Salinity	1.00 0.72	Very limited Slow refill Depth to saturated zone Salinity and saturated zone Cutbanks cave	1.00 0.90  0.88 0.10
BfdB: Burford-----	90	Somewhat limited Seepage Depth to bedrock	0.12 0.01	Not limited		Very limited Depth to water	1.00
BfdC: Burford-----	92	Somewhat limited Seepage Depth to bedrock	0.12 0.01	Not limited		Very limited Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfSC2: Burford, moderately eroded-----	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.12	Piping	0.01	Depth to water	1.00
		Depth to bedrock	0.01				
Spikebox, moderately eroded-----	40	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.66	Thin layer	1.00	Depth to water	1.00
		Seepage	0.04	Piping	1.00		
BfSE: Burford-----	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.12	Piping	0.02	Depth to water	1.00
		Depth to bedrock	0.01				
Spikebox-----	40	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.69	Thin layer	1.00	Depth to water	1.00
		Seepage	0.04	Piping	1.00		
BriE: Brico-----	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.04	Large stones content	0.28	Depth to water	1.00
BukA: Bukreek-----	92	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.81	Depth to water	1.00
CarB: Carey-----	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	0.99	Depth to water	1.00
CawA: Carwile-----	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Depth to water	1.00
				Ponding	1.00		
				Piping	1.00		
				Seepage	0.01		
CVRD: Cottonwood-----	42	Very limited		Very limited		Very limited	
		Gypsum content	1.00	Piping	1.00	Depth to water	1.00
		Depth to bedrock	1.00	Thin layer	1.00		
Vinson-----	25	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.91	Piping	0.99	Depth to water	1.00
		Seepage	0.72	Thin layer	0.91		
Rock outcrop-----	23	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
DeSD: Devol-----	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Springer-----	27	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
DkuA: Duke-----	80	Somewhat limited Seepage	0.12	Very limited Piping	1.00	Very limited Depth to water	1.00
DodA: Dodson-----	92	Somewhat limited Seepage	0.72	Somewhat limited Piping Seepage	0.15 0.03	Very limited Depth to water	1.00
DodB: Dodson-----	87	Somewhat limited Seepage	0.54	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
EatA: Eastall-----	94	Not limited		Very limited Depth to saturated zone Hard to pack Ponding	1.00 1.00 1.00	Very limited Depth to water	1.00
EdsB: Eda-----	87	Very limited Seepage	1.00	Somewhat limited Seepage	0.26	Very limited Depth to water	1.00
EdsD: Eda-----	87	Very limited Seepage	1.00	Somewhat limited Seepage	0.26	Very limited Depth to water	1.00
EdsF: Eda-----	90	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.26	Very limited Depth to water	1.00
FraB: Frankirk-----	90	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
FryB: Farry-----	92	Very limited Seepage	1.00	Somewhat limited Piping	0.92	Very limited Depth to water	1.00
GdfB: Grandfield-----	80	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
GlGB: Grandmore-----	65	Somewhat limited Seepage	0.72	Very limited Piping Depth to saturated zone	1.00 0.01	Very limited Depth to water	1.00
Grandfield-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GlsB: Grandfield-----	87	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
GlsD: Grandfield-----	87	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
GmuA: Gracemont, saline---	90	Very limited Seepage	1.00	Very limited Depth to saturated zone Salinity Seepage	1.00 0.12 0.03	Somewhat limited Salinity and saturated zone Cutbanks cave	0.50 0.10
GmwA: Gracemont, saline---	89	Very limited Seepage	1.00	Very limited Depth to saturated zone Salinity Seepage	1.00 0.12 0.10	Very limited Cutbanks cave Salinity and saturated zone	1.00 0.50
GrrA: Gracemore, saline---	90	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage Salinity	1.00 0.75 0.12	Very limited Cutbanks cave Salinity and saturated zone	1.00 0.22
GtbB: Gotebo-----	82	Somewhat limited Seepage Depth to bedrock	0.72 0.23	Very limited Piping	1.00	Very limited Depth to water	1.00
HdmB: Hardeman-----	90	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
HdmC: Hardeman-----	95	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
HfkA: Hayfork-----	83	Somewhat limited Seepage	0.01	Not limited		Very limited Depth to water	1.00
HksA: Headrick-----	90	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.75 0.29	Very limited Depth to water	1.00
HolA: Hollister-----	91	Not limited		Somewhat limited Hard to pack	0.23	Very limited Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HrAC:							
Harmon-----	50	Somewhat limited Depth to bedrock	0.61	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Aspermont-----	44	Somewhat limited Seepage Depth to bedrock	0.54 0.01	Somewhat limited Piping	0.09	Very limited Depth to water	1.00
HSAF:							
Hardeman-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.05	Very limited Depth to water	1.00
Southside-----	27	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
Arnett-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.05	Very limited Depth to water	1.00
JesC:							
Jester-----	87	Very limited Seepage	1.00	Somewhat limited Seepage	0.72	Very limited Depth to water	1.00
KcRG:							
Knoco, bouldery-----	45	Somewhat limited Depth to bedrock Slope	0.87 0.12	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
KoBE:							
Knoco-----	45	Somewhat limited Depth to bedrock	0.61	Not limited		Very limited Depth to water	1.00
Badland-----	30	Not rated		Not rated		Not rated	
KRCF:							
Knoco-----	33	Somewhat limited Depth to bedrock	0.78	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Rock outcrop-----	21	Not rated		Not rated		Not rated	
Cottonwood-----	17	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 0.99	Very limited Depth to water	1.00
LacB:							
La Casa-----	79	Somewhat limited Seepage	0.01	Not limited		Very limited Depth to water	1.00
LnuA:							
Lincoln-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.75	Very limited Depth to water	1.00
LnWA:							
Lincoln-----	65	Very limited Seepage	1.00	Somewhat limited Seepage	0.38	Very limited Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Westola-----	22	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.10	Very limited Depth to water	1.00
LwtA: Lawton-----	87	Somewhat limited Seepage	0.12	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
LwtB: Lawton-----	87	Somewhat limited Seepage	0.12	Somewhat limited Piping	0.10	Very limited Depth to water	1.00
LwtC2: Lawton, moderately eroded-----	77	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
M-W: Water, Miscellaneous	100	Not rated		Not rated		Not rated	
MagB: Madge-----	90	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.01	Very limited Depth to water	1.00
MdgB: Madge-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.64	Very limited Depth to water	1.00
MknB: Mcknight-----	87	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
MktB: Mcknight-----	85	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
MktC2: Mcknight, moderately eroded-----	75	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Piping	0.07	Very limited Depth to water	1.00
NpsB: Nipsum-----	82	Somewhat limited Seepage	0.01	Somewhat limited Piping	0.13	Very limited Depth to water	1.00
NstC: Nobscot-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.72	Very limited Depth to water	1.00
OakA: Oakley-----	80	Somewhat limited Seepage	0.72	Very limited Piping Seepage	1.00 0.04	Very limited Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OakB: Oakley-----	85	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited Depth to water	1.00
OzKA: Ozark-----	85	Very limited Seepage	1.00	Very limited Piping	1.00	Very limited Depth to water	1.00
PIT: Pits-----	100	Not rated		Not rated		Not rated	
QhTC: Quannah-----	50	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
Talpa-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 0.08	Very limited Depth to water	1.00
QnRG: Quinlan-----	50	Somewhat limited Depth to bedrock Slope Seepage	0.80 0.64 0.04	Very limited Piping	1.00	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
RakA: Roark-----	85	Very limited Seepage	1.00	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
RKBG: Rock outcrop, granite-----	60	Not rated		Not rated		Not rated	
Brico-----	30	Somewhat limited Slope Seepage	0.04 0.04	Somewhat limited Large stones content	0.39	Very limited Depth to water	1.00
RKO: Rock outcrop, granite-----	100	Not rated		Not rated		Not rated	
RuuA: Rups-----	90	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Salinity Piping	1.00 1.00 0.42	Very limited Salinity and saturated zone Slow refill Cutbanks cave	1.00 0.96 0.10
RuWA: Rups-----	82	Somewhat limited Seepage	0.04	Very limited Salinity Depth to saturated zone Piping	1.00 0.86 0.42	Very limited Salinity and saturated zone Slow refill Cutbanks cave Depth to saturated zone	1.00 0.96 0.10 0.06

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SKRG: Spikebox-----	40	Somewhat limited Depth to bedrock Slope Seepage	0.78 0.28 0.04	Very limited Thin layer Piping	1.00 1.00	Very limited Depth to water	1.00
Knoco-----	23	Somewhat limited Depth to bedrock Slope	0.80 0.28	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
SpDB: Springer-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
Devol-----	22	Very limited Seepage	1.00	Somewhat limited Seepage	0.14	Very limited Depth to water	1.00
SplA: Spur-----	90	Very limited Seepage	1.00	Very limited Piping	1.00	Very limited Depth to water	1.00
SurA: Spur-----	84	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.87	Very limited Depth to water	1.00
SuuA: Spur-----	90	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.72	Very limited Depth to water	1.00
SuwA: Spur-----	87	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.91	Very limited Depth to water	1.00
TARD: Talpa-----	46	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 0.99	Very limited Depth to water	1.00
Aspermont-----	37	Somewhat limited Seepage Depth to bedrock	0.54 0.01	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
Rock outcrop-----	11	Not rated		Not rated		Not rated	
TilA: Tillman-----	85	Not limited		Somewhat limited Piping	0.40	Very limited Depth to water	1.00
TilB: Tillman-----	85	Not limited		Somewhat limited Piping	0.40	Very limited Depth to water	1.00
TipA: Tipton-----	80	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited Depth to water	1.00



# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TlvB: Tilvern-----	85	Somewhat limited Depth to bedrock	0.01	Somewhat limited Piping	0.22	Very limited Depth to water	1.00
TpfA: Tipton-----	90	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.04	Very limited Depth to water	1.00
TrwB: Treadway-----	87	Not limited		Very limited Piping Salinity	1.00 0.50	Very limited Depth to water	1.00
VeKE: Vernon-----	50	Somewhat limited Depth to bedrock	0.23	Not limited		Very limited Depth to water	1.00
Knoco-----	35	Somewhat limited Depth to bedrock	0.61	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
VerC: Vernon-----	78	Somewhat limited Depth to bedrock	0.04	Not limited		Very limited Depth to water	1.00
VeTE: Vernon-----	53	Somewhat limited Depth to bedrock	0.02	Not limited		Very limited Depth to water	1.00
Talpa, stony-----	25	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 0.99	Very limited Depth to water	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
WlwB: Willow-----	85	Very limited Seepage Depth to bedrock	1.00 0.01	Very limited Piping	1.00	Very limited Depth to water	1.00
WooB: Woodward-----	87	Somewhat limited Seepage Depth to bedrock	0.72 0.02	Very limited Piping	1.00	Very limited Depth to water	1.00
WooC: Woodward-----	90	Somewhat limited Seepage Depth to bedrock	0.72 0.17	Very limited Piping	1.00	Very limited Depth to water	1.00
WoQE: Woodward-----	50	Somewhat limited Seepage Depth to bedrock	0.72 0.23	Very limited Piping	1.00	Very limited Depth to water	1.00

# Soil Survey of Greer County, Oklahoma

## Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Quinlan-----	37	Somewhat limited Depth to bedrock Seepage	0.78 0.04	Very limited Piping	1.00	Very limited Depth to water	1.00
WslA: Westola-----	90	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.02	Very limited Depth to water	1.00
WstA: Westola-----	92	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.02	Very limited Depth to water	1.00
WtlA: Westill-----	85	Not limited		Not limited		Very limited Depth to water	1.00
WtlB: Westill-----	83	Not limited		Not limited		Very limited Depth to water	1.00

# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

## Engineering Index Properties

The table, "Engineering Index Properties," shows estimates of the engineering classifications and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

*Depth* to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the series descriptions in this survey.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters across. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the system adopted by the American Association of State Highway and Transportation Officials (1) and the Unified soil classification system (2).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches across and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches across is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in

group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches across and 3 to 10 inches across are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches across based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
AceB: Acme-----	In				Pct	Pct					Pct	
	0-12	Silt loam	CL	A-4, A-6	0	0	98-100	95-100	85-100	60-95	30-37	8-13
	12-24	Silty clay loam, silt loam, loam, clay loam	CL	A-4, A-6	0	0	98-100	95-100	85-100	60-95	30-42	8-19
	24-44	Gypsisferous loam, gypsisferous clay loam, gypsisferous silt loam, gypsisferous silty clay loam	CL, ML, CL-ML	A-6, A-4	0	0	98-100	95-100	85-100	60-95	22-42	2-19
	44-55	Gypsisferous loam, gypsisferous clay loam, gypsisferous silt loam, gypsisferous silty clay loam	CL-ML, CL, ML	A-4, A-6	0	0	98-100	95-100	85-100	60-95	22-42	2-19
	55-80	Gypsisferous loam, gypsisferous clay loam, gypsisferous silt loam, gypsisferous silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-100	60-95	22-42	2-19
Arnett-----	0-15	Sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	85-98	75-92	50-80	25-60	14-26	NP-7
	15-40	Sandy clay loam, clay loam	SC, CL	A-4, A-6	0	0	85-98	75-92	60-85	30-80	25-40	7-18
	40-58	Gravelly sandy clay loam, gravelly clay loam	CL, SC	A-4, A-6, A- 2-6, A-2-4	0	0-5	65-95	55-85	40-75	20-60	25-40	7-18
	58-80	Gravelly coarse sandy loam, gravelly sandy clay loam, gravelly clay loam	CL, ML, SC, SM, CL-ML	A-4, A-6, A- 2-6, A-2-4	0	0-5	65-95	55-85	40-75	20-60	14-40	NP-18
ArHF: Hardeman-----	0-7	Fine sandy loam	ML, SC-SM, SM, CL-ML	A-2-4, A-4	0	0	93-100	85-100	75-96	30-60	14-25	NP-7
	7-40	Fine sandy loam, very fine sandy loam, loam	SC-SM, CL-ML, ML, SM	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	40-60	Fine sandy loam, very fine sandy loam, loam	SM, CL-ML, ML, SC-SM	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	60-80	Fine sandy loam, very fine sandy loam, loam, loamy fine sand	SC-SM, SM, CL-ML, ML	A-2-4, A-4	0	0	93-100	85-100	75-90	25-60	0-26	NP-7

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
ArnB: Arnett-----	0-4	Sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	76-100	75-92	72-92	28-55	14-25	NP-4
	4-21	Sandy clay loam, clay loam	CL, SC	A-4, A-6	0	0	78-100	77-92	73-92	29-83	25-40	7-18
	21-50	Gravelly sandy clay loam, gravelly clay loam	CL, SC	A-4, A-6, A- 2-6, A-2-4	0	0-5	49-86	47-82	42-82	17-69	25-40	7-18
	50-67	Gravelly clay loam, gravelly sandy clay loam, gravelly coarse sandy loam	CL-ML, CL, SC-SM, SM, SC, ML	A-4, A-6, A- 2-6, A-2-4	0	0-5	49-87	46-82	42-82	17-69	14-40	NP-18
ArnC: Arnett-----	0-7	Sandy loam	SM, CL-ML, ML, SC-SM	A-4	0	0	85-98	75-92	50-80	25-60	14-26	NP-7
	7-17	Clay loam, sandy clay loam	CL, SC	A-4, A-6	0	0	85-98	75-92	60-85	30-80	25-40	7-18
	17-31	Gravelly sandy clay loam, gravelly clay loam	CL, SC	A-4, A-6, A- 2-6, A-2-4	0	0-5	65-95	55-85	40-75	20-60	25-40	7-18
	31-44	Gravelly coarse sandy loam, gravelly sandy clay loam, gravelly clay loam	SC, CL-ML, SM, ML, CL, SC-SM	A-4, A-6, A- 2-6, A-2-4	0	0-5	65-95	55-85	40-75	20-60	14-40	NP-18
	44-57	Stratified loamy coarse sand to gravelly clay loam	SW-SM, CL, ML, SC, SM, CL-ML	A-4, A-2-4, A-6, A-2-6	0	0-5	60-95	50-85	30-85	8-70	0-40	NP-18
	57-80	Stratified loamy coarse sand to clay loam	ML, SC, SM, CL-ML, CL	A-4, A-2-4, A-6, A-2-6	0	0-2	89-100	79-100	57-100	28-64	0-40	NP-18
AsmB: Aspermont-----	0-6	Silt loam	CL	A-4, A-6	0	0	98-100	90-100	80-100	65-90	30-37	8-14
	6-34	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-98	30-43	8-20
	34-43	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-95	30-43	8-20
	43-50	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	95-100	85-100	85-100	65-95	30-50	8-26
	50-80	Clay, silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
AsmC: Aspermont-----	0-8	Silt loam	CL	A-4, A-6	0	0	98-100	90-100	80-100	65-90	30-37	8-14
	8-35	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-98	30-43	8-20
	35-50	Silty clay loam, silt loam, clay loam, loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-95	30-43	8-20
	50-80	Clay loam, clay, silty clay, silty clay loam	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
BekA: Beckman-----	0-4	Silty clay	CH, CL	A-7	0	0	95-100	93-100	93-100	90-95	45-60	19-34
	4-14	Clay, silty clay, silty clay loam, clay loam	CL, CH	A-7, A-6	0	0	95-100	93-100	93-100	90-95	37-60	15-34
	14-41	Clay, silty clay, silty clay loam, clay loam	CL, CH	A-7, A-6	0	0	95-100	93-100	93-100	90-95	35-60	14-34
	41-80	Clay, silty clay, silty clay loam, clay loam	CH, CL	A-7, A-6	0	0	95-100	93-100	93-100	90-95	35-60	14-34
BfdB: Burford-----	0-5	Loam	CL	A-4, A-6	0	0	98-100	96-100	80-100	65-95	30-37	8-14
	5-12	Loam, clay loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	98-100	96-100	90-100	75-98	30-43	8-20
	12-30	Clay loam, silty clay loam, loam, silt loam	CL	A-6, A-7	0	0	98-100	96-100	90-100	75-98	30-43	8-20
	30-43	Silty clay loam, silty clay, clay loam, clay	CL, CH	A-6, A-7	0	0	98-100	96-100	90-100	70-95	33-53	12-34
	43-80	Silty clay, silty clay loam, clay, clay loam	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
BfdC: Burford-----	0-6	Loam	CL	A-4, A-6	0	0	98-100	96-100	80-100	65-95	30-37	8-14
	6-24	Clay loam, silty clay loam, loam, silt loam	CL	A-7, A-6	0	0	98-100	96-100	90-100	75-98	30-43	8-20
	24-40	Silty clay, clay, clay loam, silty clay loam	CL, CH	A-6, A-7	0	0	98-100	96-100	90-100	70-95	33-53	12-34
	40-80	Clay loam, silty clay, silty clay loam, clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
BfSC2: Burford, Eroded-	0-6	Loam	CL	A-4, A-6	0	0	98-100	95-100	80-100	65-95	30-37	8-14
	6-35	Loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7	0	0	98-100	95-100	90-100	75-98	30-43	8-20
	35-40	Silty clay, silty clay loam, clay loam, clay	CL	A-6, A-7	0	0	98-100	95-100	90-100	75-98	33-53	12-34
	40-80	Silty clay loam, clay, silty clay, clay loam	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
Spikebox, Eroded	0-7	Loam	CL-ML, ML	A-4	0	0	90-100	85-100	85-100	58-85	22-29	2-7
	7-15	Loam, fine sandy loam, very fine sandy loam	SC-SM, CL-ML, ML, SM	A-4	0	0	90-100	85-100	80-100	35-85	14-29	NP-7
	15-40	Bedrock			---	---	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
BfSE: Burford-----	In				Pct	Pct					Pct	
	0-10	Loam	CL	A-4, A-6	0	0	98-100	95-100	80-100	65-95	30-37	8-14
	10-29	Loam, clay loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	98-100	95-100	90-100	75-98	30-43	8-20
	29-44	Clay loam, silty clay loam, silt loam, loam	CL	A-6, A-7	0	0	98-100	95-100	90-100	75-98	30-43	8-20
	44-57	Silty clay loam, clay, silty clay, clay loam	CL, CH	A-6, A-7	0	0	98-100	95-100	90-100	70-95	33-53	12-34
	57-80	Silty clay loam, silty clay, clay, clay loam	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
Spikebox-----	0-6	Loam	ML, CL-ML	A-4	0	0	90-100	85-100	85-100	58-85	22-29	2-7
	6-14	Loam, fine sandy loam, very fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	90-100	85-100	80-100	35-85	14-29	NP-7
	14-40	Bedrock			---	---	---	---	---	---	---	---
BriE: Brico-----	0-11	Cobbly loam	CL, GC, SC	A-4, A-6	0	15-30	70-95	65-90	50-70	40-60	30-36	9-15
	11-24	Very cobbly clay, very cobbly clay loam, cobbly clay, cobbly clay loam	GC, SC	A-2, A-6, A-7	0	15-60	40-85	40-85	30-60	30-50	37-65	16-37
	24-40	Very cobbly clay loam, very cobbly clay, cobbly clay loam, cobbly clay	SC, GC	A-2, A-6, A-7	0	15-60	40-85	40-85	30-60	30-50	37-65	16-37
	40-72	Extremely cobbly clay loam, very cobbly clay loam, cobbly clay loam	SC, GC	A-2, A-6, A-7	0	15-60	30-85	20-85	15-60	15-50	33-49	13-25
BukA: Bukreek-----	0-11	Loam	CL	A-4, A-6	0	0	100	98-100	95-100	65-85	30-35	8-13
	11-18	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	98-100	90-100	50-90	25-40	10-18
	18-30	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	98-100	90-100	50-90	25-40	10-18
	30-74	Loam, clay loam, sandy clay loam	CL, SC	A-4, A-6	0	0	90-100	85-100	80-100	36-90	25-40	7-18
	74-80	Loam, sandy clay loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	95-100	90-100	80-100	36-85	20-35	4-15
CarB: Carey-----	0-15	Loam	CL-ML, ML, CL	A-4, A-6	0	0	100	98-100	94-100	65-85	20-32	3-12
	15-42	Silty clay loam, clay loam, loam	CL	A-4, A-6	0	0	100	98-100	94-100	65-95	30-43	8-20
	42-65	Silt loam, loam, very fine sandy loam	CL, CL-ML, ML, SM	A-4, A-6	0	0	97-100	90-100	83-100	44-95	14-37	2-14
	65-80	Silt loam, loam, very fine sandy loam	CL, CL-ML, SM, ML	A-4, A-6	0	0-2	90-100	75-100	75-100	40-95	14-37	2-14



# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
CawA: Carwile-----	0-15	Fine sandy loam	CL-ML, SM, SC-SM, ML	A-4	0	0	100	98-100	90-100	36-60	14-26	NP-7
	15-27	Clay loam, sandy clay, clay	SC, CL, CH	A-6, A-7	0	0	100	98-100	90-100	40-95	31-52	10-30
	27-57	Sandy clay loam, clay loam, sandy clay, clay	SC, CL, CH	A-4, A-6, A-7	0	0	100	98-100	90-100	36-95	25-52	7-30
	57-80	Fine sandy loam, sandy loam, sandy clay loam	CL, SC, SM, CL-ML, SC- SM, ML	A-4, A-6	0	0	100	98-100	90-100	36-60	14-32	NP-13
CVRD: Cottonwood-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	98-100	95-100	80-100	55-85	25-37	4-13
	5-8	Gypsiferous silt loam, gypsiferous loam, gypsiferous clay loam, gypsiferous silty clay loam	CL, CL-ML	A-4, A-6, A- 7, A-5	0	0	95-100	90-100	80-100	55-85	25-43	4-19
	8-15	Gypsiferous bedrock			---	---	---	---	---	---	---	---
	15-20	Gypsiferous bedrock			---	---	---	---	---	---	---	---
Vinson-----	0-4	Silt loam	CL	A-4, A-6	0	0	100	100	96-100	65-97	30-37	8-14
	4-15	Silty clay loam, silt loam, loam, clay loam	CL	A-4, A-6, A-7	0	0	100	100	96-100	65-98	30-43	8-20
	15-22	Silty clay loam, silt loam, loam, clay loam	CL	A-4, A-6, A-7	0	0	100	100	96-100	65-98	30-43	8-20
	22-28	Bedrock			---	---	---	---	---	---	---	---
	28-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
DAM: Dam-----	0-80	Variable			---	---	---	---	---	---	---	---
DeSD: Devol-----	0-8	Loamy sand	SM	A-2	0	0	99-100	98-100	85-100	15-35	0-14	NP
	8-28	Fine sandy loam, loamy fine sand	SM, SC-SM, CL-ML, ML	A-2, A-4	0	0	99-100	98-100	90-100	15-60	0-26	NP-7
	28-47	Fine sandy loam, loamy fine sand	ML, SC-SM, SM, CL-ML	A-2, A-4	0	0	99-100	98-100	90-100	15-60	0-26	NP-7
	47-62	Loamy sand, fine sand, fine sandy loam, loamy fine sand	SM, SC-SM	A-2, A-4	0	0	99-100	98-100	80-100	5-50	0-26	NP-7
	62-80	Loamy sand, loamy fine sand, fine sand, fine sandy loam	SC-SM, SM	A-2, A-4	0	0	99-100	98-100	50-100	5-50	0-26	NP-7

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
Springer-----	In				Pct	Pct					Pct	
	0-15	Loamy sand	SP-SM, SM	A-2-4	0	0	98-100	95-100	70-96	10-25	0-14	NP-4
	15-41	Fine sandy loam, sandy loam, loamy sand, loamy fine sand	SC-SM, SM, CL-ML, ML	A-4, A-2-4	0	0	98-100	95-100	75-99	11-60	14-26	NP-7
	41-52	Fine sand, loamy sand, loamy fine sand, sandy loam	SW-SM, SM	A-2-4, A-3	0	0	98-100	95-100	70-96	8-25	0-14	NP-4
	52-70	Fine sandy loam, sandy clay loam	CL, SC, SC- SM, SM, CL- ML, ML	A-2-4, A-4	0	0	98-100	95-100	75-99	11-60	14-30	2-10
	70-80	Loamy sand, loamy fine sand, fine sandy loam, fine sand	SM, SC-SM, SP-SM	A-2, A-4	0	0	98-100	95-100	50-99	5-50	0-26	NP-7
DkuA: Duke-----	0-5	Silty clay	CH, CL	A-7-6	0	0	99-100	97-100	95-100	90-99	41-60	18-35
	5-12	Silty clay, silty clay loam, clay loam, clay	CH, CL	A-7-6, A-6	0	0	99-100	97-100	95-100	85-99	35-60	15-35
	12-44	Silty clay, silty clay loam, clay loam, clay	CL, CH	A-7-6, A-6	0	0	99-100	97-100	95-100	85-99	35-60	15-35
	44-80	Silty clay, silty clay loam, clay loam, clay, stratified silt loam to clay	CL, CH	A-6, A-7-6, A-4	0	0	99-100	97-100	95-100	75-99	25-60	7-35
DodA: Dodson-----	0-7	Loam	CL, CL-ML	A-4, A-6	0	0	100	98-100	90-100	60-90	25-35	5-15
	7-37	Silty clay loam, clay loam, silty clay, clay	CL	A-6, A-7	0	0	98-100	95-100	90-100	75-98	35-50	13-28
	37-56	Silty clay loam, clay loam, loam, silt loam	CL	A-4, A-6, A-7	0	0	98-100	95-100	90-100	65-98	30-50	8-26
	56-72	Silty clay loam, clay loam, sandy clay loam, loam, silt loam	CL, SC	A-4, A-6, A-7	0	0	98-100	95-100	90-100	40-98	25-42	7-20
	72-80	Silty clay loam, clay loam, sandy clay loam, sandy loam, loam, silt loam	SC-SM, CL, CL-ML, SC	A-4, A-6, A-7	0	0	95-100	90-100	85-100	35-90	20-42	4-20

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
DodB: Dodson-----	0-6	Loam	CL-ML, CL	A-4, A-6	0	0	100	98-100	90-100	60-90	25-35	5-15
	6-26	Silty clay loam, clay loam, silty clay, clay	CL	A-6, A-7	0	0	98-100	95-100	90-100	75-98	35-50	13-28
	26-56	Silty clay loam, clay loam, loam, silt loam	CL	A-4, A-6, A-7	0	0	98-100	95-100	90-100	65-98	30-50	8-26
	56-83	Silty clay loam, clay loam, sandy clay loam, loam, silt loam	SC, CL	A-4, A-6, A-7	0	0	98-100	95-100	90-100	40-98	25-42	7-20
	83-91	Clay, clay loam, silty clay, silty clay loam, silt loam, very fine sandy loam, loam	SC, ML, CL- ML, CL	A-4, A-6, A-7	0	0	95-100	90-100	85-100	35-98	14-50	NP-28
EatA: Eastall-----	0-12	Silty clay	CH	A-7-6	0	0	100	100	95-100	85-98	55-76	33-50
	12-19	Clay, silty clay	CH	A-7-6	0	0	100	100	95-100	85-98	55-76	33-50
	19-56	Clay, silty clay	CH	A-7-6	0	0	100	98-100	90-100	80-95	55-76	33-50
	56-76	Silty clay, clay	CH	A-7-6	0	0	100	98-100	90-100	80-95	55-76	33-50
	76-95	Silty clay, clay, clay loam, silty clay loam	CH, CL	A-7-6	0	0	100	98-100	90-100	70-95	40-76	20-50
EdsB: Eda-----	0-11	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	5-35	0-7	NP
	11-35	Loamy sand, loamy fine sand, fine sand, sand	SP-SM, SM	A-2, A-3	0	0	100	100	82-100	3-35	0-14	NP
	35-80	Loamy sand, loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	5-35	0-14	NP
EdsD: Eda-----	0-13	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	5-35	0-7	NP
	13-50	Loamy sand, loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	3-35	0-14	NP
	50-80	Loamy sand, loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	5-35	0-14	NP
EdsF: Eda-----	0-18	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	5-35	0-7	NP
	18-40	Loamy sand, loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	3-35	0-14	NP
	40-80	Loamy sand, loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	3-35	0-14	NP

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
FraB: Frankirk-----	0-6	Loam	CL	A-4, A-6	0	0	98-100	96-100	85-95	55-75	30-35	9-13
	6-18	Clay loam, sandy clay loam, clay	CL	A-6, A-7-6	0	0	98-100	96-100	90-100	65-80	35-60	14-34
	18-52	Clay loam, sandy clay, clay	CL	A-6, A-7-6	0	0	98-100	96-100	90-100	65-80	35-60	14-34
	52-65	Clay loam, sandy clay loam, loam	CL	A-6	0	0	95-100	90-100	85-98	55-75	25-40	7-18
	65-80	Sandy clay loam, loam, clay loam	CL	A-6	0	0	95-100	90-100	85-98	55-75	25-38	7-18
FryB: Farry-----	0-7	Loam	CL-ML, CL, ML	A-4	0	0	95-100	93-100	91-100	60-85	22-30	2-8
	7-11	Clay loam, loam, sandy clay loam	CL, SC	A-4, A-6	0	0	85-99	77-95	70-95	30-85	25-38	7-16
	11-50	Loam, sandy clay loam, clay loam	CL, SC	A-4, A-6	0	0	85-99	77-95	70-95	30-85	25-38	7-16
	50-63	Sandy clay loam, sandy loam, loam	CL-ML, SC-SM, CL, SC	A-4, A-6	0	0	85-99	77-95	70-95	30-85	15-35	2-13
	63-75	Loamy sand, loam, sandy loam, sandy clay loam	SC-SM, SM, CL-ML, SC, CL, ML	A-4, A-6, A-2	0	0	80-99	70-95	60-95	10-80	5-35	NP-11
	75-84	Loam, sandy loam, very fine sandy loam, loamy sand, sand	CL-ML, SM, CL, SC-SM, SP-SM, ML, SC	A-4, A-2	0	0	75-99	63-95	50-95	5-80	0-32	NP-10
GdfB: Grandfield-----	0-15	Fine sandy loam	CL-ML, SM, ML, SC-SM	A-4	0	0	100	98-100	94-100	36-60	14-26	NP-7
	15-32	Sandy clay loam, fine sandy loam	SC, CL, CL- ML, SC-SM	A-4, A-6	0	0	100	98-100	90-100	36-65	20-37	6-16
	32-49	Sandy clay loam, fine sandy loam	ML, CL-ML, SC-SM, CL, SM, SC	A-4, A-6	0	0	100	98-100	90-100	36-65	20-37	3-16
	49-56	Sandy clay loam, fine sandy loam, loamy sand	SC-SM, CL, ML, SC, SM, CL-ML	A-4, A-2	0	0	100	98-100	90-100	15-60	14-30	NP-10
	56-80	Fine sandy loam, loamy sand, sand	SC-SM, CL-ML, SM, ML	A-2, A-4	0	0	100	98-100	82-100	5-60	0-26	NP-7
GlGB: Grandmore-----	0-18	Loamy sand	SM	A-2	0	0	100	98-100	60-95	15-35	0-14	NP
	18-38	Sandy clay loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	98-100	85-100	36-65	24-37	6-16
	38-46	Fine sandy loam, sandy clay loam	CL-ML, ML, SC, SM, CL, SC-SM	A-4, A-6	0	0	100	98-100	85-100	36-65	20-37	3-16
	46-61 61-80	Clay, clay loam Clay loam, clay, sandy clay loam, fine sandy loam	CH, CL SM, CH, SC, SC-SM, CL, ML, CL-ML	A-6, A-7 A-4, A-6, A-7	0 0	0 0	100 100	98-100 98-100	90-100 90-100	70-95 36-95	31-60 14-60	11-34 NP-34

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
Grandfield-----	In				Pct	Pct					Pct	
	0-8	Loamy sand	SM	A-2	0	0	100	98-100	90-100	15-35	0-14	NP
	8-28	Fine sandy loam, sandy clay loam	SC, CL-ML, CL, SC-SM	A-4, A-6	0	0	100	98-100	90-100	36-65	20-35	6-16
	28-55	Fine sandy loam, sandy clay loam	SC, CL-ML, SM, ML, CL, SC-SM	A-4, A-6	0	0	100	98-100	90-100	36-65	20-35	3-16
	55-75	Fine sandy loam, sandy clay loam	SC-SM, CL-ML, CL, SM, SC, ML	A-4, A-2	0	0	100	98-100	90-100	15-60	14-30	NP-10
	75-80	Fine sandy loam, loamy sand, sand	ML, SM, CL- ML, SC-SM	A-4, A-2	0	0	100	98-100	82-100	5-60	0-26	NP-7
GlsB: Grandfield-----	0-7	Loamy sand	SM	A-2	0	0	100	98-100	90-100	15-35	0-14	NP
	7-21	Sandy clay loam, fine sandy loam	SC-SM, SC, CL, CL-ML	A-4, A-6	0	0	100	98-100	90-100	36-65	20-35	6-16
	21-44	Sandy clay loam, fine sandy loam	CL, ML, SC, SM, SC-SM, CL-ML	A-4, A-6	0	0	100	98-100	90-100	36-65	20-35	3-16
	44-72	Sandy clay loam, fine sandy loam, loamy sand	CL-ML, SM, SC-SM, CL, ML, SC	A-4, A-2	0	0	100	98-100	90-100	15-60	7-30	NP-10
	72-80	Fine sandy loam, loamy sand, sand	SC-SM, CL-ML, SM, ML	A-4, A-2	0	0	100	98-100	82-100	5-60	0-26	NP-7
GlsD: Grandfield-----	0-13	Loamy sand	SM	A-2	0	0	100	98-100	90-100	15-35	0-14	NP
	13-34	Sandy clay loam, fine sandy loam	CL-ML, SC-SM, SC, CL	A-4, A-6	0	0	100	98-100	90-100	36-65	20-35	6-16
	34-47	Sandy clay loam, fine sandy loam	CL, ML, SC, SM, CL-ML, SC-SM	A-4, A-6	0	0	100	98-100	90-100	36-65	20-35	3-16
	47-58	Loamy sand, sandy clay loam, fine sandy loam	ML, CL-ML, CL, SC-SM, SM, SC	A-4, A-2	0	0	100	98-100	90-100	15-60	7-30	NP-10
	58-80	Loamy sand, fine sandy loam, sand	ML, SM, CL- ML, SC-SM	A-4, A-2	0	0	100	98-100	82-100	5-60	0-26	NP-7
GmuA: Gracemont, saline-----	0-6	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	98-100	94-100	36-90	15-26	NP-7
	6-20	Loam, fine sandy loam, stratified fine sandy loam to loam	ML, SC-SM, SM, CL-ML	A-4	0	0	100	98-100	94-100	36-90	14-29	NP-7
	20-80	Sandy loam, fine sandy loam, loamy sand, loam, clay loam, stratified loamy sand to clay loam	ML, SC-SM, SM, CL, CL- ML	A-2-4, A-4, A-6	0	0	100	98-100	94-100	27-85	0-40	NP-18

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
GmwA: Gracemont, saline-----	0-4	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4	0	0	100	98-100	94-100	36-90	15-26	NP-7
	4-35	Fine sandy loam, loam, stratified fine sandy loam to loam	ML, SC-SM, SM, CL-ML	A-4	0	0	100	98-100	94-100	36-90	14-29	NP-7
	35-80	Loamy sand, fine sandy loam, loam, clay loam, stratified loamy sand to clay loam	CL, CL-ML, SM, SC-SM, ML	A-2-4, A-4, A-6	0	0	100	98-100	90-100	15-85	0-40	NP-18
GrrA: Gracemore, saline-----	0-7	Clay loam	CL	A-6	0	0	100	100	96-100	75-98	31-40	10-18
	7-17	Loamy fine sand, stratified loamy fine sand to fine sandy loam, fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	90-100	85-100	82-100	5-35	0-14	NP
	17-80	Loamy fine sand, sand, fine sand, coarse sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	90-100	85-100	82-100	5-35	0-7	NP
GtbB: Gotebo-----	0-8	Loam	ML, CL-ML, CL	A-4	0	0	100	100	96-100	65-97	22-31	2-10
	8-17	Loam, silt loam	ML, CL-ML, CL	A-4	0	0	100	100	96-100	65-97	22-31	2-10
	17-26	Very fine sandy loam, loam, silt loam	CL-ML, ML, CL	A-4	0	0	100	100	96-100	65-97	14-31	NP-10
	26-80	Silt loam, loam, very fine sandy loam	ML, CL, SM, CL-ML	A-4	0	0-2	90-100	85-100	75-100	40-95	14-31	NP-10
HdmB: Hardeman-----	0-6	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	93-100	85-100	75-96	30-60	14-25	NP-7
	6-46	Fine sandy loam, very fine sandy loam, loam	ML, SC-SM, SM, CL-ML	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	46-80	Fine sandy loam, very fine sandy loam, loam	CL-ML, SC-SM, SM, ML	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
HdmC: Hardeman-----	0-13	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	93-100	85-100	75-96	30-60	14-25	NP-7
	13-35	Fine sandy loam, very fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	35-62	Fine sandy loam, very fine sandy loam, loam	SC-SM, ML, CL-ML, SM	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	62-80	Fine sandy loam, very fine sandy loam, loam, loamy fine sand	SM, SC-SM, CL-ML, ML	A-2-4, A-4	0	0	93-100	85-100	75-90	25-60	0-26	NP-7

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
HfkA: Hayfork-----	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	99-100	98-100	85-100	35-50	12-25
	11-27	Silty clay loam, silty clay, clay loam, clay	CL	A-6, A-7-6	0	0	100	99-100	95-100	80-100	37-50	15-30
	27-41	Silty clay loam, silty clay, clay loam, clay	CL	A-6, A-7-6	0	0	100	99-100	95-100	80-100	35-50	12-30
	41-50	Silty clay loam, silty clay, clay loam, clay	CL	A-6, A-7-6	0	0	100	99-100	95-100	80-100	35-50	12-30
	50-60	Silty clay loam, silty clay, clay loam, clay	CL	A-6, A-7-6	0	0	100	99-100	95-100	80-100	35-50	12-30
HksA: Headrick-----	0-5	Loamy sand			0	0	100	98-100	60-95	15-35	0-14	NP
	5-32	Sandy clay loam, fine sandy loam	SC, SM, ML, CL	A-4, A-6	0	0	100	98-100	85-100	36-65	20-37	3-16
	32-66	Clay loam, clay	CH, CL	A-6, A-7	0	0	98-100	95-100	90-100	70-95	31-60	11-34
	66-80	Sandy clay loam, clay loam, silty clay loam, silty clay, clay	CH, SC, CL	A-6, A-7	0	0	98-100	95-100	90-100	36-98	30-60	10-34
HolA: Hollister-----	0-9	Silty clay loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	75-95	35-50	17-30
	9-23	Clay, silty clay, clay loam, silty clay loam	CL, CH	A-7-6	0	0	98-100	96-100	90-100	75-96	41-60	20-35
	23-72	Clay, silty clay loam, clay loam, silty clay	CL, CH	A-7-6	0	0	98-100	96-100	90-100	75-96	41-60	20-35
	72-110	Silty clay, clay loam, silty clay loam, clay	CL, CH	A-7-6	0	0	98-100	96-100	85-99	75-96	41-55	20-32
	110-138	Silty clay loam, clay, silty clay, clay loam	CH, CL	A-7-6	0	0	98-100	96-100	85-99	75-96	41-55	20-32
HrAC: Harmon-----	0-7	Gravelly silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	70-95	65-85	60-85	40-80	22-35	2-12
	7-16	Gravelly silt loam, very gravelly silt loam, extremely gravelly silt loam	CL, ML, CL- ML, GC, GC- GM, GM	A-2-4, A-4, A-6	---	0-5	20-70	10-65	9-65	7-60	22-35	2-12
	16-40	Bedrock			---	---	---	---	---	---	---	---
Aspermont-----	0-5	Silt loam	CL	A-4, A-6	0	0	98-100	90-100	80-100	65-90	30-37	8-14
	5-40	Silty clay loam, clay loam, loam, silt loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-98	30-43	8-20
	40-50	Silty clay loam, clay loam, loam, silt loam	CL	A-6, A-7	0	0	95-100	85-100	85-100	65-95	30-50	8-26
	50-80	Clay loam, silty clay loam, clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
HSAF: Hardeman-----	0-14	Fine sandy loam	SM, CL-ML, ML, SC-SM	A-2-4, A-4	0	0	93-100	85-100	75-96	30-60	14-25	NP-7
	14-20	Fine sandy loam, very fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	20-46	Fine sandy loam, very fine sandy loam, loam	SM, ML, CL- ML, SC-SM	A-2-4, A-4	0	0	93-100	85-100	75-90	30-60	14-29	NP-7
	46-80	Fine sandy loam, very fine sandy loam, loam, loamy sand	SM, ML, SC- SM, CL-ML	A-2-4, A-4	0	0	93-100	85-100	75-90	15-60	0-26	NP-7
Southside-----	0-6	Sandy loam	SM, ML	A-2-4, A-4	0	0	80-100	70-99	65-96	25-60	14-25	NP-4
	6-28	Gravelly sand, gravelly loamy sand, loamy sand, sand	SW-SM, SW, SP, SP-SM	A-2-4, A-3	0	0-1	60-100	50-92	40-90	2-30	0-14	NP-2
	28-80	Sand, loamy sand, gravelly loamy sand, gravelly sand	SW, SP, SP- SM, SW-SM	A-2-4, A-3	0	0-1	60-100	50-92	40-90	2-30	0-14	NP-2
Arnett-----	0-6	Sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	76-99	75-92	72-92	28-55	14-25	NP-4
	6-21	Sandy clay loam, clay loam	CL, SC	A-4, A-6	0	0	78-99	77-92	73-92	29-83	25-40	7-18
	21-30	Gravelly sandy clay loam, gravelly clay loam	CL, SC	A-4, A-6, A- 2-6, A-2-4	0	0-5	49-86	47-82	42-82	17-69	25-40	7-18
	30-45	Gravelly coarse sandy loam, gravelly sandy clay loam, gravelly clay loam	CL, ML, SC, CL-ML, SC- SM, SM	A-4, A-6, A- 2-6, A-2-4	0	0-5	65-95	55-85	42-82	17-69	14-40	NP-18
	45-80	Stratified loamy coarse sand to gravelly clay loam	ML, CL, SC, SM, SW-SM, CL-ML	A-4, A-2-4, A-6, A-2-6	0	0-5	49-100	46-98	42-97	6-88	0-40	NP-18
JesC: Jester-----	0-7	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	82-100	3-35	0-14	NP-3
	7-45	Loamy fine sand, fine sand, sand	SP-SM, SM	A-2, A-3	0	0	100	100	82-100	3-35	0-14	NP-3
	45-80	Loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3	0	0	100	98-100	82-100	3-35	0-14	NP-3
KcRG: Knoco, bouldery-	0-3	Silty clay	CH, CL	A-6, A-7-6	2-5	5-10	90-100	85-100	85-100	80-98	30-60	12-38
	3-9	Silty clay, clay	CL, CH	A-6, A-7-6	0-2	0-2	90-100	85-100	75-100	70-100	30-60	12-38
	9-60	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
KoBE: Knoco-----	0-6	Silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	80-100	75-100	60-90	30-60	12-38
	6-16	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	75-100	70-100	30-60	12-38
	16-60	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
Badland-----	0-60	Bedrock			0	0	---	---	---	---	---	---



# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
KRCF: Knoco-----	0-3	Silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	80-100	75-100	60-90	30-60	12-38
	3-12	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	75-100	70-100	30-60	12-38
	12-60	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Cottonwood-----	0-4	Silt loam	CL	A-4, A-6	0	0	98-100	95-100	80-100	55-85	28-37	5-14
	4-40	Bedrock			---	---	---	---	---	---	---	---
LacB: La Casa-----	0-6	Silty clay loam	CL	A-6	0	0	98-100	95-100	90-100	70-95	33-42	12-19
	6-12	Silty clay loam, silty clay, clay loam, clay	CH, CL	A-6, A-7-6	0	0	98-100	95-100	90-98	70-98	37-55	15-30
	12-34	Silty clay, silty clay loam, clay, clay loam	CH, CL	A-6, A-7-6	0	0	98-100	95-100	90-98	70-98	37-55	15-30
	34-64	Silty clay loam, silty clay, clay, clay loam	CL, CH	A-6, A-7-6	0	0	98-100	93-100	85-98	65-95	33-55	13-30
	64-81	Silty clay loam, clay loam, silty clay, clay	CL, CH	A-6, A-7-6	0	0-5	90-100	75-100	70-97	60-90	33-55	13-30
	81-91	Silty clay loam, clay loam, silty clay, clay	CL, CH	A-7-6, A-6	0	0-5	85-100	70-100	50-97	50-90	33-55	13-32
LnuA: Lincoln-----	0-8	Loamy sand	SM	A-2-4	0	0	95-100	85-100	75-100	15-35	0-14	NP-4
	8-21	Fine sand, sand, loamy sand, stratified sand to loam	SM, SP-SM	A-2-4, A-3	0	0	95-100	85-100	82-100	3-35	0-14	NP-4
	21-80	Stratified sand to loam, sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	85-100	82-100	5-35	0-14	NP-4
LnWA: Lincoln-----	0-5	Loamy sand	SM	A-2-4	0	0	95-100	85-100	75-100	15-35	0-14	NP-4
	5-15	Loamy sand, sand, stratified sand to loam	SM, SP-SM	A-2-4, A-3	0	0	95-100	85-100	82-100	5-35	0-14	NP-4
	15-80	Stratified sand to loam, sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	85-100	82-100	5-35	0-14	NP-4
Westola-----	0-5	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	95-100	90-100	36-60	15-26	NP-7
	5-30	Fine sandy loam, very fine sandy loam, loam, stratified fine sandy loam to loam	ML, SM, CL- ML, SC-SM	A-4	0	0	100	95-100	90-100	36-85	15-30	NP-8
	30-80	Stratified sand to sandy loam, stratified loamy fine sand to loam	ML, SC-SM, SM, CL-ML	A-2-4, A-4	0	0	100	95-100	90-100	15-85	10-30	NP-8

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
LwtA: Lawton-----	0-6	Loam	CL	A-4, A-6	0	0-5	90-100	85-99	80-98	55-85	25-35	8-13
	6-9	Loam, clay loam	CL	A-4, A-6	0	0	90-100	85-99	80-98	60-90	25-40	8-18
	9-34	Clay loam	CL	A-6, A-7	0	0	90-100	85-99	80-98	65-90	35-50	15-25
	34-75	Loam, clay	CL, GC	A-2, A-4, A-6, A-7	0	0	65-99	50-98	45-95	35-90	25-50	4-25
		loam, clay, gravelly loam, gravelly clay loam, gravelly clay										
	75-80	Loam, clay loam, sandy clay loam, gravelly sandy clay loam, gravelly clay loam, gravelly loam	GC, CL, SC	A-2, A-4, A-6	0	0	65-99	50-98	45-95	25-90	22-40	4-18
LwtB: Lawton-----	0-6	Loam	CL	A-4, A-6	0	0-5	90-100	85-99	80-98	55-85	25-35	8-13
	6-28	Clay loam	CL	A-6, A-7	0	0	90-100	85-99	80-98	65-90	35-50	15-25
	28-56	Clay loam	CL	A-6, A-7	0	0	90-100	85-99	80-98	65-90	35-50	15-25
	56-75	Loam, clay	GC, CL	A-2, A-4, A-6, A-7	0	0	65-99	50-98	45-95	25-90	25-50	4-25
		loam, clay, gravelly loam, gravelly clay loam, gravelly clay										
	75-80	Loam, clay loam, sandy clay loam, gravelly sandy clay loam, gravelly clay loam, gravelly loam	SC, CL, GC	A-2, A-4, A-6	0	0	65-99	50-98	45-95	10-90	22-40	4-18
LwtC2: Lawton, Eroded--	0-5	Loam	CL	A-4, A-6	0	0-5	90-100	85-99	80-98	55-85	25-35	8-13
	5-45	Clay loam	CL	A-6, A-7	0	0	90-100	85-99	80-98	65-90	35-50	15-25
	45-62	Loam, clay	CL, GC	A-2, A-4, A-6, A-7	0	0	65-99	50-98	45-95	35-90	25-50	4-25
		loam, clay, gravelly loam, gravelly clay loam, gravelly clay										
	62-80	Loam, clay loam, sandy clay loam, gravelly sandy clay loam, gravelly clay loam, gravelly loam	CL, GC, SC	A-2, A-4, A-6	0	0	65-99	50-98	45-95	25-90	22-40	4-18
	M-W: Water, Miscellaneous--	0-80	Water			---	---	---	---	---	---	---
MagB: Madge-----	0-13	Loam	ML, CL, CL-ML	A-4	0	0	100	98-100	95-100	65-85	22-32	2-11
	13-25	Clay loam, sandy clay loam, loam	SC, CL	A-4, A-6	0	0	98-100	95-100	89-100	40-90	25-40	7-18
	25-41	Clay loam, sandy clay loam, loam, fine sandy loam	CL-ML, SC-SM, SC, CL	A-4, A-6	0	0	98-100	95-100	89-100	36-90	15-40	4-18
	41-57	Loam, very fine sandy loam, fine sandy loam, loamy sand	CL-ML, SC-SM, SC, ML, CL, SM	A-4, A-6, A-2	0	0	98-100	95-100	89-100	15-85	5-35	NP-11

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
MdgB: Madge-----	In 57-80	Loam, very fine sandy loam, fine sandy loam, loamy sand, sand	SM, CL, SP- SM, SC-SM, CL-ML, ML, SC	A-4, A-2	Pct 0	Pct 0	97-100	93-100	80-100	5-85	Pct 0-32	NP-10
	0-5	Fine sandy loam	SM, ML, CL- ML, SC-SM	A-2-4, A-4	0	0	100	98-100	95-100	35-60	14-26	NP-7
	5-43	Sandy clay loam, clay loam, loam	CL, SC	A-4, A-6	0	0	98-100	95-100	89-100	40-90	25-40	7-18
	43-49	Fine sandy loam, clay loam, sandy clay loam, loam	SC-SM, CL, SC, CL-ML	A-4, A-6	0	0	98-100	95-100	89-100	36-90	15-40	4-18
	49-56	Loamy sand, fine sandy loam, loam, very fine sandy loam	CL, ML, SC, SM, SC-SM, CL-ML	A-4, A-6, A-2	0	0	98-100	95-100	89-100	15-85	5-35	NP-11
	56-80	Sand, loamy sand, fine sandy loam, very fine sandy loam, loam	SM, SC, CL, SP-SM, SC- SM, CL-ML, ML	A-4, A-2	0	0	97-100	93-100	80-100	5-85	0-32	NP-10
MknB: Mcknight-----	0-7	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	97-100	95-100	90-100	36-60	14-26	NP-7
	7-35	Sandy clay loam, fine sandy loam	CL, SC	A-4, A-6	0	0	95-100	92-100	85-100	36-65	20-37	5-16
	35-53	Clay, clay loam, silty clay loam, silty clay	CH, CL	A-6, A-7	0	0-1	90-100	85-100	80-100	70-98	37-60	15-34
	53-80	Silty clay, silty clay loam, clay loam, clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
MktB: Mcknight-----	0-14	Loamy fine sand	SM	A-2	0	0	97-100	95-100	85-100	15-35	0-14	NP
	14-29	Sandy clay loam, fine sandy loam	SC, CL	A-4, A-6	0	0	95-100	92-100	85-100	36-65	20-37	5-16
	29-36	Clay, clay loam, silty clay loam, silty clay	CH, CL	A-6, A-7	0	0-1	90-100	85-100	80-100	70-98	37-60	15-34
	36-52	Clay, clay loam, silty clay loam, silty clay	CL, CH	A-6, A-7	0	0-1	90-100	85-100	80-100	70-98	37-60	15-34
	52-80	Clay, clay loam, silty clay, silty clay loam	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
MktC2: Mcknight, Eroded	0-7	Loamy fine sand	SM	A-2	0	0	97-100	95-100	85-100	15-35	0-14	NP
	7-35	Sandy clay loam, fine sandy loam	CL, SC	A-4, A-6	0	0	95-100	92-100	85-100	36-65	20-37	5-16
	35-51	Clay, clay loam, silty clay loam, silty clay	CH, CL	A-6, A-7	0	0-1	90-100	85-100	80-100	70-98	37-60	15-34
	51-80	Clay, silty clay, silty clay loam, clay loam	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches						
							4	10	40	200		
	In				Pct	Pct					Pct	
NpsB: Nipsum-----	0-20	Silty clay loam	CL	A-6, A-7-6	0	0-2	97-100	90-100	90-100	80-98	37-50	15-25
	20-27	Silty clay, clay, clay loam, silty clay loam	CH, CL	A-6, A-7-6	0	0-2	97-100	90-100	90-100	75-98	37-60	15-30
	27-40	Silty clay, clay, clay loam, silty clay loam	CH, CL	A-7-6	0	0	97-100	90-100	90-100	75-98	37-60	15-30
	40-62	Silty clay, clay, clay loam, silty clay loam	CL, CH	A-7-6	0	0	97-100	90-100	90-100	75-98	33-60	12-30
	62-80	Silty clay, clay, clay loam, silty clay loam	CH, CL	A-6, A-7-6	0	0	97-100	90-100	90-100	75-98	33-60	12-30
NstC: Nobscot-----	0-5	Sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	70-98	3-25	0-0	NP
	5-23	Sand, fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	70-100	3-35	0-14	NP
	23-53	Sandy loam, fine sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	100	95-100	70-100	20-60	14-26	NP-7
	53-71	Sandy loam, loamy fine sand, loamy sand, fine sand	ML, SC-SM, SM, SP-SM, CL-ML	A-4, A-2-4, A-3	0	0	100	95-100	70-100	3-60	0-26	NP-7
	71-80	Sand, fine sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	95-100	70-100	3-35	0-14	NP
OakA: Oakley-----	0-12	Loam	CL	A-4, A-6	0	0	95-100	90-100	80-95	55-80	25-35	7-13
	12-43	Loam, sandy clay loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	85-100	75-98	65-95	30-80	25-40	7-18
	43-58	Sandy clay loam, loam, clay loam	SC-SM, SC, CL-ML, CL	A-6, A-4	0	0	85-100	75-98	65-95	30-80	25-40	7-18
	58-85	Clay loam, sandy clay loam, loam, sandy loam	CL, CL-ML, ML, SM, SC- SM, SC	A-4, A-6	0	0	85-100	75-98	50-95	25-75	15-40	2-18
	85-95	Gravelly sandy loam, loam, stratified gravelly loamy sand to clay loam	SC, CL, CL- ML, ML, SM, SC-SM	A-6, A-4	0	0	75-100	62-98	50-95	25-75	15-40	2-18
	95-120	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
OakB: Oakley-----	0-7	Loam	CL	A-4, A-6	0	0	95-100	90-100	80-95	55-80	25-35	7-13
	7-41	Clay loam, loam, sandy clay loam	CL-ML, SC, SC-SM, CL	A-6, A-4	0	0	85-100	75-98	65-95	30-80	25-40	7-18
	41-49	Sandy clay loam, clay loam, loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0	85-100	75-98	65-95	30-80	25-40	7-18
	49-72	Sandy loam, loam, sandy clay loam, clay loam	SM, SC-SM, ML, CL-ML, CL, SC	A-6, A-4	0	0	85-100	75-98	50-95	25-75	15-40	2-18

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
OzkA: Ozark-----	In 72-95	Loam, gravelly sandy loam, stratified gravelly loamy sand to clay loam	CL-ML, ML, SM, SC-SM, CL, SC	A-6, A-4	Pct 0	Pct 0	75-100	62-98	50-95	25-75	Pct 15-40	2-18
	95-120	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
	0-11	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	98-100	70-100	36-60	15-26	NP-7
	11-24	Clay loam, sandy clay loam	SC, CL	A-4, A-6	0	0	100	98-100	80-100	36-85	25-40	7-18
	24-50	Loam, clay loam, sandy clay loam, sandy clay, clay	CL, SC	A-4, A-6, A-7	0	0	100	98-100	80-100	36-85	25-50	7-25
	50-59	Loam, clay loam, sandy clay loam, sandy clay, clay	CL, SC	A-4, A-6, A-7	0	0	100	98-100	80-100	36-85	25-50	7-25
	59-83	Fine sandy loam, clay loam, sandy clay loam, loam	SM, CL, CL- ML, SC, ML, SC-SM	A-4, A-6	0	0	100	98-100	70-100	36-85	15-40	2-18
	83-105	Clay, silty clay, clay loam, silty clay loam	CH, CL	A-6, A-7	0	0	98-100	95-100	90-100	36-95	33-60	12-34
PIT: Pits-----	105-120	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
	0-80	Bedrock			---	---	---	---	---	---	---	---
QhTC: Quanah-----	0-14	Silty clay loam	CL	A-6	0	0	95-100	92-100	90-100	65-95	33-40	11-20
	14-22	Silty clay loam, clay loam, loam, silt loam	CL	A-4, A-6, A-7	0	0	95-100	92-100	85-100	55-95	25-45	8-20
	22-36	Silty clay loam, clay loam, loam, silt loam	CL	A-4, A-6, A-7	0	0	90-100	85-100	85-98	55-95	25-45	8-20
	36-82	Silty clay loam, clay loam, loam, silt loam	CL	A-4, A-6, A-7	0	0	90-100	85-100	85-98	55-95	25-45	8-20
Talpa-----	0-10	Loam	CL	A-7, A-6	0	0-5	85-100	75-92	70-92	55-85	30-45	11-25
	10-20	Bedrock			---	---	---	---	---	---	---	---
QnRG: Quinlan-----	0-5	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	94-100	51-75	14-28	NP-7
	5-11	Loam, silt loam, very fine sandy loam, fine sandy loam	ML, SM, CL, CL-ML	A-4, A-6	0	0	97-100	95-100	90-100	36-98	14-37	NP-14
	11-40	Silt loam, loam, very fine sandy loam	SM, CL, CL- ML, ML	A-4, A-6	0	0-2	90-100	85-100	75-100	40-95	14-37	NP-14
Rock outcrop----	0-62	Bedrock			---	---	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
RakA: Roark-----	0-10	Loam	CL, CL-ML	A-4, A-6	0	0	98-100	97-100	90-100	57-85	25-35	4-13
	10-24	Clay loam, silty clay loam, clay	CL	A-6, A-7	0	0	98-100	97-100	90-100	65-95	35-50	16-26
	24-34	Clay loam, silty clay loam, clay	CL	A-6, A-7	0	0	98-100	95-100	90-100	60-95	35-50	16-26
	34-49	Clay loam, silty clay loam, clay	CL	A-6, A-7	0	0	98-100	95-100	90-100	60-95	35-50	16-26
	49-67	Loam, silty clay loam, clay loam, sandy clay loam, fine sandy loam	CL-ML, SC, SC-SM, CL	A-4, A-6, A-7	0	0	98-100	95-100	80-98	35-95	15-43	4-20
	67-80	Clay loam, loam, sandy clay loam, fine sandy loam, loamy sand	SC-SM, CL, SM, SC, CL- ML, ML	A-4, A-6, A-2	0	0	95-100	90-100	80-98	15-85	0-50	NP-23
RKBG: Rock outcrop, granite-----	0-60	Bedrock			---	---	---	---	---	---	---	---
Brico-----	0-10	Cobbly loam	SC, GC, CL	A-4, A-6	0	15-30	70-95	65-90	50-70	40-60	30-36	9-15
	10-35	Very cobbly clay, very cobbly clay loam, cobbly clay, cobbly clay loam	SC, GC	A-2, A-6, A-7	0	20-60	40-85	40-85	30-60	30-50	37-65	16-37
	35-72	Extremely cobbly clay loam, very cobbly clay loam, cobbly clay loam	SC, GC	A-2, A-6, A-7	0	20-60	30-85	20-85	15-60	15-50	33-49	13-25
RKO: Rock outcrop, granite-----	0-60	Bedrock			---	---	---	---	---	---	---	---
RuuA: Rups-----	0-7	Silty clay loam	CL	A-6, A-7-6	0	0	100	98-100	95-100	75-90	33-42	12-19
	7-21	Clay loam, silty clay loam, silt loam	CL	A-6, A-7	0	0	100	98-100	95-100	70-90	30-43	8-20
	21-43	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	98-100	95-100	70-90	30-43	8-20
	43-80	Silty clay loam, clay loam, silty clay, clay, stratified silty clay loam to clay	CL	A-6, A-7	0	0	95-100	90-100	85-100	65-90	30-50	8-23
RuWA: Rups-----	0-15	Silty clay loam	CL	A-6, A-7-6	0	0	100	98-100	95-100	75-90	33-42	12-19
	15-30	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	98-100	95-100	70-90	30-43	8-20
	30-48	Silt loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	100	98-100	95-100	70-90	30-43	8-20

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
	48-80	Stratified silty clay loam to clay, clay loam, silty clay loam, silty clay, clay	CL	A-6, A-7	0	0	95-100	90-100	85-100	65-90	30-50	8-23
SKRG: Spikebox-----	0-3	Loam	CL-ML, ML	A-4	0	0	90-100	85-100	85-100	58-85	22-29	2-7
	3-12	Loam, fine sandy loam, very fine sandy loam	SM, SC-SM, CL-ML, ML	A-4	0	0	90-100	85-100	80-100	35-85	14-29	NP-7
	12-40	Bedrock			---	---	---	---	---	---	---	---
Knoco-----	0-5	Silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	80-100	75-100	60-90	30-60	12-38
	5-11	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	75-100	70-100	30-60	12-38
	11-80	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
Rock outcrop----	0-62	Bedrock			---	---	---	---	---	---	---	---
SpDB: Springer-----	0-13	Loamy sand	SM, SP-SM	A-2-4	0	0	98-100	95-100	70-96	10-25	0-14	NP-4
	13-42	Fine sandy loam, sandy loam, loamy sand, loamy fine sand	ML, CL-ML, SM, SC-SM	A-4, A-2-4	0	0	98-100	95-100	75-99	11-60	14-26	NP-7
	42-57	Fine sand, loamy sand, loamy fine sand, sandy loam	SM, SW-SM	A-2-4, A-3	0	0	98-100	95-100	70-96	8-25	0-14	NP-4
	57-80	Fine sandy loam, sandy clay loam	SC-SM, SM, CL-ML, CL, ML, SC	A-2-4, A-4	0	0	98-100	95-100	75-99	11-60	14-30	2-10
SpDB: Devol-----	0-14	Loamy sand	SM	A-2	0	0	99-100	98-100	85-100	15-35	0-14	NP
	14-29	Fine sandy loam, loamy fine sand	SM, SC-SM, CL-ML, ML	A-2, A-4	0	0	99-100	98-100	90-100	15-60	0-26	NP-7
	29-45	Fine sandy loam, loamy fine sand	SC-SM, ML, CL-ML, SM	A-2, A-4	0	0	99-100	98-100	90-100	15-60	0-26	NP-7
	45-65	Loamy sand, fine sand, loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	0	0	99-100	98-100	80-100	5-50	0-26	NP-7
	65-80	Fine sand, loamy sand, loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	0	0	99-100	98-100	50-100	5-50	0-26	NP-7
SplA: Spur-----	0-11	Loam	ML, CL-ML	A-4	0	0	100	98-100	96-100	65-85	22-29	2-7
	11-43	Loam, clay loam, sandy clay loam	CL, SC	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
	43-75	Loam, clay loam, sandy clay loam, fine sandy loam, stratified fine sandy loam to clay loam	CL, CL-ML, SC-SM, SM, ML, SC	A-6, A-4	0	0	100	98-100	90-100	36-90	14-40	2-18

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
SurA: Spur-----	75-90	Loam, clay loam, sandy clay loam, fine sandy loam, stratified fine sandy loam to clay loam	SM, SC, ML, CL, CL-ML, SC-SM	A-6, A-4	0	0	100	98-100	90-100	36-90	14-40	2-18
	0-14	Clay loam	CL	A-6	0	0	100	98-100	96-100	75-90	31-40	10-18
	14-30	Loam, clay loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
	30-51	Loam, clay loam, sandy clay loam	SC-SM, CL, SC, CL-ML	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
SuuA: Spur-----	51-80	Stratified fine sandy loam to clay loam, fine sandy loam, loam, sandy clay loam, clay loam	CL, SC, SC- SM, CL-ML	A-6, A-4	0	0	100	98-100	90-100	36-90	20-40	4-18
	0-10	Clay loam	CL	A-6	0	0	100	98-100	96-100	75-90	31-40	10-18
	10-16	Clay loam, loam	CL	A-6	0	0	100	98-100	96-100	75-90	30-40	8-18
	16-48	Sandy clay loam, loam, clay loam	SC-SM, SC, CL-ML, CL	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
SuwA: Spur-----	48-80	Clay loam, sandy clay loam, loam, fine sandy loam, stratified fine sandy loam to clay loam	SC-SM, CL-ML, SC, CL	A-6, A-4	0	0	100	98-100	90-100	36-90	20-40	4-18
	0-8	Clay loam	CL	A-6	0	0	100	98-100	96-100	75-90	31-40	10-18
	8-17	Sandy clay loam, clay loam, loam	SC-SM, SC, CL-ML, CL	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
	17-35	Loam, sandy clay loam, clay loam	CL-ML, SC, SC-SM, CL	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
TARD: Talpa-----	35-49	Sandy clay loam, clay loam, loam	CL-ML, SC, SC-SM, CL	A-6, A-4	0	0	100	98-100	90-100	36-90	25-40	7-18
	49-80	Stratified fine sandy loam to clay loam, fine sandy loam, loam, sandy clay loam, clay loam	CL-ML, SC-SM, SC, CL	A-6, A-4	0	0	100	98-100	90-100	36-90	20-40	4-18
	0-7	Loam	ML, CL	A-6, A-4	0	0-5	85-100	75-92	70-92	55-85	30-35	7-13
	7-40	Bedrock			---	---	---	---	---	---	---	---
Aspermont-----	0-10	Silt loam	ML, CL	A-4, A-6	0	0	95-100	90-100	80-100	65-90	30-37	7-14
	10-42	Silty clay loam, clay loam, loam, silt loam	ML, CL	A-6, A-7, A-4	0	0	90-100	85-100	85-100	65-95	30-43	7-20



# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
	42-80	Silty clay loam, clay, clay loam, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	65-100	30-60	12-38
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
TilA: Tillman-----	0-8	Clay loam	CL	A-6	0	0-1	97-100	95-100	95-100	70-90	30-43	11-20
	8-15	Clay, silty clay, silty clay loam, clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	92-100	90-98	70-95	37-55	15-35
	15-45	Clay, clay loam, silty clay loam, silty clay	CL, CH	A-6, A-7-6	0	0-1	95-100	92-100	80-97	60-90	37-55	15-35
	45-62	Silty clay loam, silty clay, clay, clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	92-100	80-97	60-90	37-55	15-35
	62-78	Clay loam, silty clay, silty clay loam, clay	CL, CH	A-6, A-7-6	0	0-3	95-100	90-100	80-97	60-90	37-60	15-35
	78-90	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-3	95-100	90-100	80-97	60-90	40-60	18-35
	90-100	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	60-100	30-60	12-38
TilB: Tillman-----	0-6	Clay loam	CL	A-6	0	0-1	97-100	95-100	95-100	70-90	30-43	11-20
	6-10	Clay, clay loam, silty clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-1	95-100	92-100	90-98	70-95	37-55	15-35
	10-25	Silty clay, silty clay loam, clay, clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	92-100	90-98	70-95	37-55	15-35
	25-48	Silty clay loam, silty clay, clay loam, clay	CL, CH	A-6, A-7-6	0	0-1	95-100	92-100	80-97	60-90	37-55	15-35
	48-60	Silty clay loam, clay, clay loam, silty clay	CH, CL	A-6, A-7-6	0	0-1	95-100	92-100	80-97	60-90	37-55	15-35
	60-82	Clay loam, silty clay, silty clay loam, clay	CH, CL	A-6, A-7-6	0	0-3	95-100	90-100	80-97	60-90	37-60	15-35
	82-90	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-3	95-100	90-100	80-97	60-90	40-60	18-35
	90-100	Silty clay, clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	60-100	30-60	12-38
TipA: Tipton-----	0-8	Loam	CL-ML, CL	A-4	0	0	100	99-100	95-100	65-85	25-33	4-12
	8-15	Loam	CL, CL-ML	A-4	0	0	100	99-100	95-100	65-85	25-33	4-12
	15-25	Loam, sandy clay loam, clay loam	CL, CL-ML, SC-SM, SC	A-4, A-6	0	0	100	97-100	90-100	36-85	25-40	7-18
	25-41	Clay loam, loam, sandy clay loam	CL, CL-ML, SC-SM, SC	A-4, A-6	0	0	95-100	93-100	85-100	36-85	25-40	7-18
	41-66	Loam, clay loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	95-100	93-100	85-100	36-85	25-40	7-18
	66-80	Sandy clay loam, sandy loam, clay loam, loam	ML, SC, CL- ML, SC-SM, SM, CL	A-2-4, A-4, A-6	0	0	95-100	93-100	80-100	30-85	20-40	2-18

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches						
							4	10	40	200		
	In				Pct	Pct					Pct	
TlvB: Tilvern-----	0-5	Clay loam	CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-95	35-50	15-26
	5-11	Silty clay, clay, clay loam	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-97	35-60	16-35
	11-31	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	90-100	80-97	38-60	18-35
	31-44	Silty clay, clay, clay loam	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-95	35-60	16-35
	44-51	Silty clay, clay, clay loam	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-95	35-60	16-35
	51-80	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
	Tpfa: Tipton-----	0-7	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	95-100	80-100	36-60	15-26
7-13		Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	95-100	80-100	36-60	15-26	NP-7
13-24		Loam, sandy clay loam	SC, SM, CL, ML, CL-ML	A-4, A-6	0	0	100	97-100	90-100	36-85	22-34	2-12
24-47		Clay loam, sandy clay loam, loam	CL-ML, CL, SC, SC-SM	A-4, A-6	0	0	100	97-100	90-100	36-85	25-40	7-18
47-63		Sandy clay loam, loam, clay loam	CL, CL-ML, SC-SM, SC	A-4, A-6	0	0	95-100	93-100	85-100	36-85	25-40	7-18
63-80		Sandy loam, loam, sandy clay loam, clay loam	ML, SC-SM, SM, CL, SC, CL-ML	A-4, A-6, A- 2-4	0	0	95-100	93-100	70-100	30-85	20-40	2-18
TrwB: Treadway-----		0-13	Silty clay loam	CL	A-6, A-7	0	0	95-100	92-100	85-100	80-98	35-50
	13-24	Silty clay loam, silty clay, clay, clay loam	CL, CH	A-7, A-6	0	0	90-100	75-100	70-100	60-98	35-60	15-34
	24-80	Silty clay, clay, silty clay loam, clay loam, stratified silty clay loam to clay	CH, CL	A-7, A-6	0	0	85-100	75-100	70-97	60-95	35-60	15-34
	VeKE: Vernon-----	0-6	Clay loam	CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-95	35-50
6-26		Clay, silty clay	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	90-100	80-98	38-60	18-40
26-80		Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
Knoco-----	0-6	Silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	80-100	75-100	60-90	30-60	12-38
	6-16	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	75-100	70-100	30-60	12-38
	16-60	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
VerC: Vernon-----	0-6	Clay loam	CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-95	35-50	16-26
	6-26	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	80-98	38-60	18-40
	26-35	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	80-98	38-60	18-40
	35-80	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38
VeTE: Vernon-----	0-7	Clay loam	CL	A-6, A-7-6	0	0-1	95-100	90-100	90-100	70-95	35-50	16-26
	7-16	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	90-100	80-98	38-60	18-40
	16-25	Clay, silty clay	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	90-100	80-98	38-60	18-40
	25-38	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-98	38-60	18-40
	38-80	Clay, silty clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	70-100	30-60	12-38

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Talpa, stony----	0-9	Loam	CL, ML	A-6, A-4	0	0-5	85-100	75-92	70-92	55-85	30-35	7-13
	9-40	Bedrock			---	---	---	---	---	---	---	---
W: Water-----	0-80	Water			---	---	---	---	---	---	---	---
WlwB: Willow-----	0-7	Loam	CL	A-4, A-6	0	0	98-100	97-100	95-100	65-90	30-37	8-14
	7-31	Silty clay loam, clay loam, loam, silt loam	CL	A-6	0	0	98-100	97-100	95-100	65-98	33-45	12-22
	31-39	Silt loam, clay loam, loam	CL, ML	A-4, A-6	0	0	97-100	92-100	85-100	55-98	30-37	5-15
	39-54	Silt loam, loam, very fine sandy loam	CL-ML, CL, ML	A-4	0	0	90-100	80-100	75-100	50-97	14-33	NP-10
	54-80	Silt loam, loam, very fine sandy loam	CL, CL-ML, ML, SM	A-4	0	0-2	90-100	75-100	75-100	40-95	14-33	NP-10
WooB: Woodward-----	0-15	Loam	ML, CL-ML, CL	A-4	0	0	100	100	96-100	65-97	22-31	2-10
	15-32	Loam, silt loam, very fine sandy loam	CL-ML, CL, ML	A-4	0	0	100	100	94-100	51-97	15-31	NP-10
	32-38	Loam, silt loam, very fine sandy loam	SM, ML, CL- ML, CL	A-4	0	0	90-100	85-100	80-100	40-97	15-31	NP-10
	38-80	Loam, silt loam, very fine sandy loam	CL, ML, SM, CL-ML	A-4	0	0-2	90-100	85-100	75-100	40-95	14-31	NP-10
WooC: Woodward-----	0-7	Loam	CL, ML, CL-ML	A-4	0	0	100	100	96-100	65-97	22-31	2-10
	7-19	Loam, silt loam, very fine sandy loam	CL, ML, CL-ML	A-4	0	0	100	100	94-100	51-97	15-31	NP-10
	19-28	Loam, silt loam, very fine sandy loam	ML, CL, CL- ML, SM	A-4	0	0	90-100	85-100	80-100	40-97	15-31	NP-10
	28-80	Loam, silt loam, very fine sandy loam	SM, ML, CL, CL-ML	A-4	0	0-2	90-100	85-100	75-100	40-95	14-31	NP-10
WoQE: Woodward-----	0-9	Loam	CL, CL-ML, ML	A-4	0	0	100	100	96-100	65-85	22-31	2-10
	9-21	Loam, silt loam, very fine sandy loam	CL-ML, ML, CL	A-4	0	0	100	100	94-100	51-97	15-31	NP-10
	21-26	Loam, silt loam, very fine sandy loam	SM, CL, CL- ML, ML	A-4	0	0	90-100	85-100	80-100	40-97	15-31	NP-10
	26-80	Loam, silt loam, very fine sandy loam	CL, SM, ML, CL-ML	A-4	0	0-2	90-100	85-100	75-100	40-95	14-31	NP-10

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Quinlan-----	0-4	Loam	ML, CL-ML, CL	A-4	0	0	100	100	96-100	65-85	22-31	2-10
	4-12	Loam, silt loam, very fine sandy loam, fine sandy loam	CL, CL-ML, ML, SM	A-4, A-6	0	0	97-100	95-100	90-100	36-98	14-37	NP-14
	12-40	Silt loam, loam, very fine sandy loam	SM, ML, CL- ML, CL	A-4, A-6	0	0-2	90-100	85-100	75-100	40-95	14-37	NP-14
WslA: Westola-----	0-12	Fine sandy loam	SM, CL-ML, SC-SM, ML	A-4	0	0	100	95-100	90-100	36-60	15-26	NP-7
	12-50	Stratified fine sandy loam to loam, fine sandy loam, very fine sandy loam, loam	CL-ML, SC-SM, ML, SM	A-4	0	0	100	95-100	90-100	36-85	15-30	NP-8
	50-80	Stratified sand to sandy loam, stratified loamy fine sand to loam	SM, CL-ML, ML, SC-SM	A-2-4, A-4	0	0	100	95-100	90-100	15-85	10-30	NP-8
WstA: Westola-----	0-8	Fine sandy loam	CL-ML, SM, SC-SM, ML	A-4	0	0	100	95-100	90-100	36-60	15-26	NP-7
	8-19	Loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	60-85	22-29	2-7
	19-30	Fine sandy loam, very fine sandy loam, loam, stratified fine sandy loam to loam	CL-ML, SM, ML, SC-SM	A-4	0	0	100	95-100	90-100	36-85	15-30	NP-8
WtlA: Westill-----	30-80	Stratified fine sandy loam to loam, fine sandy loam, very fine sandy loam, loam, stratified sand to sandy loam	SC-SM, CL-ML, SM, ML	A-4, A-2-4	0	0	100	95-100	90-100	15-85	15-30	NP-8
	0-5	Clay loam	CL	A-6	0	0-1	97-100	95-100	90-100	70-90	30-43	11-20
	5-15	Clay, clay loam, silty clay, silty clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	90-98	70-95	37-55	15-35
WtlA: Westill-----	15-24	Clay, clay loam, silty clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	90-98	70-95	37-55	15-35
	24-55	Clay, clay loam, silty clay, silty clay loam	CH, CL	A-6, A-7-6	0	0-1	95-100	90-100	80-97	60-90	37-60	15-35
	55-70	Silty clay, clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-97	60-90	40-60	18-35
	70-80	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-2	90-100	85-100	70-100	60-100	30-60	12-38

# Soil Survey of Greer County, Oklahoma

## Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Wt1B: Westill-----	In				Pct	Pct					Pct	
	0-9	Clay loam	CL	A-6	0	0-1	97-100	95-100	90-100	70-90	30-43	11-20
	9-16	Clay, clay loam, silty clay, silty clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	90-98	70-95	37-55	15-35
	16-47	Clay, clay loam, silty clay, silty clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	80-97	60-90	37-60	15-35
	47-56	Clay, clay loam, silty clay, silty clay loam	CL, CH	A-6, A-7-6	0	0-1	95-100	90-100	80-97	60-90	37-60	15-35
	56-68	Silty clay, clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-97	45-90	40-60	18-35
	68-80	Silty clay, clay	CH, CL	A-6, A-7-6	0	0-2	90-100	85-100	70-100	60-100	30-60	12-38

## Physical Soil Properties

The table, "Physical Properties of the Soils," shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the series descriptions.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. The estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Permeability* refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available

water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3 bar or 1/10 bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

*Erosion factors* are shown in the table as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups.*—Wind erodibility is directly related to the percentage of dry, nonerodible surface soil aggregates larger than 0.84 millimeter in diameter. From this percentage, the wind erodibility index factor (I) is determined. This factor is an expression of the stability of the soil aggregates, or the extent to which they are broken down by tillage and the abrasion caused by windblown soil particles. Soils are assigned to wind erodibility groups (WEG) having similar percentages of dry soil aggregates larger than 0.84 millimeter.

Wind erodibility groups are made up of soils that have similar properties affecting their resistance to soil blowing in cultivated areas. The groups indicate the susceptibility to soil blowing. Soils are grouped according to the following distinctions:

WEG 1. Very fine sand, fine sand, sand, and coarse sand.

WEG 2. Loamy very fine sand, loamy fine sand, loamy sand, loamy coarse sand, ash and sapric organic soil material.

WEG 3. Very fine sandy loam, fine sandy loam, sandy loam, and coarse sandy loam.

## Soil Survey of Greer County, Oklahoma

WEG 4L. Calcareous loam, silt loam, clay loam, and silty clay loam characterized by a strongly or violently effervescent reaction to cold dilute (1N) HCl.

WEG 5. Noncalcareous loam and silt loam with less than 20 percent clay and sandy clay loam, sandy clay, and hemic soil material.

WEG 6. Noncalcareous loam and silt loam with more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

WEG 7. Silt, noncalcareous silty clay loam with less than 35 percent clay, and fibric organic soil material.

WEG 8. Soils that are not susceptible to soil blowing because of rock fragments on the surface or because of surface wetness.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to soil blowing, or the tons per acre per year that can be expected to be lost to soil blowing. There is a close correlation between soil blowing and the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence soil blowing.

Additional information about wind erodibility groups and K, K<sub>f</sub>, T, and I factors can be obtained at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.



# Soil Survey of Greer County, Oklahoma

## Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" Apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility index
										Kw	Kf	T	
AceB: Acme-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				
	0-12	0-30	50-80	18-27	1.25-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-2.0	.37	.37	3	86
	12-24	0-45	30-80	18-35	1.30-1.70	0.6-2	0.10-0.18	0.0-2.9	0.5-1.2	.37	.37		
	24-44	0-45	30-80	12-35	1.30-1.70	0.6-2	0.10-0.18	0.0-2.9	0.2-0.8	.37	.37		
	44-55	0-45	30-80	12-35	1.30-1.70	0.6-2	0.10-0.18	0.0-2.9	0.2-0.8	.37	.37		
ArHF: Arnett-----	55-80	0-45	30-80	12-35	1.30-1.85	0.6-2	0.07-0.15	0.0-2.9	0.0-0.5	.37	.37		
	0-15	43-85	0-50	10-20	1.40-1.65	2-6	0.10-0.15	0.0-3.0	0.5-1.0	.24	.24	5	86
	15-40	20-80	0-53	18-35	1.30-1.70	0.6-2	0.12-0.20	2.0-6.0	0.1-0.7	.28	.32		
	40-58	20-80	0-53	18-35	1.30-1.70	0.6-2	0.09-0.17	0.0-3.0	0.1-0.5	.20	.32		
	58-80	20-85	0-53	10-30	1.30-1.70	0.6-6	0.05-0.17	0.0-3.0	0.0-0.5	.20	.32		
Hardeman-----	0-7	43-85	0-50	10-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24	5	86
	7-40	32-85	0-50	12-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28		
	40-60	32-85	0-50	12-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28		
	60-80	32-90	0-50	5-18	1.35-1.55	2-20	0.07-0.15	0.0-2.9	0.1-0.5	.28	.28		
	0-7	43-85	0-50	10-20	1.40-1.65	2-6	0.10-0.15	0.0-3.0	0.5-1.0	.24	.24	5	86
ArnB: Arnett-----	7-26	20-80	0-53	18-35	1.30-1.70	0.6-2	0.12-0.20	2.0-6.0	0.1-0.7	.28	.32		
	26-46	20-85	0-53	10-30	1.30-1.70	0.6-6	0.05-0.17	0.0-3.0	0.0-0.5	.20	.32		
	46-80	20-90	0-53	7-35	1.30-1.70	0.6-6	0.04-0.18	0.0-3.0	0.0-0.5	.20	.28		
	0-7	43-85	0-50	10-20	1.40-1.65	2-6	0.10-0.15	0.0-3.0	0.5-1.0	.24	.24	5	86
	7-17	20-80	0-53	18-35	1.30-1.70	0.6-2	0.12-0.20	2.0-6.0	0.1-0.7	.28	.32		
ArnC: Arnett-----	17-31	20-80	0-53	18-35	1.30-1.70	0.6-2	0.09-0.17	0.0-3.0	0.1-0.5	.20	.32		
	31-44	20-85	0-53	10-30	1.30-1.70	0.6-6	0.05-0.17	0.0-3.0	0.0-0.5	.20	.32		
	44-80	20-90	0-53	7-35	1.30-1.70	0.6-6	0.04-0.18	0.0-3.0	0.0-0.5	.20	.28		
	0-7	43-85	0-50	10-20	1.40-1.65	2-6	0.10-0.15	0.0-3.0	0.5-1.0	.24	.24	5	86
	7-17	20-80	0-53	18-35	1.30-1.70	0.6-2	0.12-0.20	2.0-6.0	0.1-0.7	.28	.32		
AsmB: Aspermont-----	6-34	0-53	20-82	18-35	1.30-1.70	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37	4	86
	34-43	0-53	20-82	18-35	1.30-1.70	0.2-2	0.12-0.22	3.0-5.9	0.0-0.5	.37	.37		
	43-50	0-53	15-82	18-40	1.30-1.70	0.2-2	0.12-0.22	3.0-5.9	0.0-0.5	.37	.37		
	50-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
	0-6	0-32	50-82	18-27	1.25-1.55	0.6-2	0.15-0.24	1.0-5.9	0.5-2.0	.37	.37	4	86
AsmC: Aspermont-----	8-35	0-32	50-82	18-27	1.25-1.55	0.6-2	0.15-0.24	1.0-5.9	0.5-2.0	.37	.37	4	86
	35-50	0-53	20-82	18-35	1.30-1.70	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37		
	50-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
	0-8	0-32	50-82	18-27	1.25-1.55	0.6-2	0.15-0.24	1.0-5.9	0.5-2.0	.37	.37	4	86
	8-35	0-32	50-82	18-27	1.25-1.55	0.6-2	0.15-0.24	1.0-5.9	0.5-2.0	.37	.37	4	86

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
Beka: Beckman-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-4	0-45	0-60	40-65	1.25-1.45	0.0015-0.06	0.12-0.18	6.0-8.9	0.5-3.0	.37	.37	5	4	86
	4-14	0-45	0-65	35-60	1.25-1.45	0.0015-0.06	0.10-0.18	6.0-8.9	0.5-3.0	.37	.37			
	14-41	0-45	0-65	30-60	1.35-1.60	0.0015-0.2	0.08-0.12	4.0-8.9	0.0-1.0	.37	.37			
	41-80	0-45	0-65	30-60	1.35-1.60	0.0015-0.2	0.08-0.12	4.0-8.9	0.0-1.0	.37	.37			
BfDB: Burford-----	0-5	23-53	27-50	18-27	1.40-1.55	0.6-2	0.15-0.24	0.0-2.9	0.5-2.0	.37	.37	4	6	48
	5-12	0-53	15-82	20-35	1.40-1.60	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	12-30	0-53	15-82	20-35	1.40-1.60	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	30-43	0-45	0-73	27-50	1.35-1.70	0.06-0.6	0.12-0.22	3.0-8.9	0.0-0.5	.37	.37			
	43-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
BfDC: Burford-----	0-6	23-53	27-50	18-27	1.40-1.55	0.6-2	0.15-0.24	0.0-2.9	0.5-2.0	.37	.37	4	6	48
	6-24	0-53	15-82	20-35	1.40-1.60	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	24-40	0-45	0-73	27-50	1.35-1.70	0.06-0.6	0.12-0.22	3.0-8.9	0.0-0.5	.37	.37			
	40-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
BfSC2: Burford, moderately eroded-----	0-6	23-53	27-50	18-27	1.40-1.55	0.6-2	0.15-0.24	0.0-2.9	0.5-1.0	.37	.37	4	4L	86
	6-35	0-53	20-73	20-35	1.40-1.60	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	35-40	0-45	15-73	27-50	1.35-1.70	0.06-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.37	.37			
	40-80	0-45	15-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
Spikebox, moderately eroded-----	0-7	15-70	10-77	8-20	1.30-1.55	0.6-2	0.13-0.19	0.0-2.9	0.2-0.8	.37	.37	1	4L	86
	7-15	15-70	10-77	8-20	1.30-1.70	0.6-6	0.10-0.19	0.0-2.9	0.2-0.8	.32	.37			
	15-40	---	---	---	1.85-2.35	0.2-0.6	---	---	---	---	---			
BfSE: Burford-----	0-10	23-53	27-50	18-27	1.40-1.55	0.6-2	0.15-0.24	0.0-2.9	0.5-2.0	.37	.37	4	6	48
	10-29	0-53	20-73	20-35	1.40-1.60	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	29-44	0-53	20-73	20-35	1.40-1.60	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	44-57	0-45	15-73	27-50	1.35-1.70	0.06-0.6	0.12-0.22	3.0-8.9	0.0-0.5	.37	.37			
	57-80	0-45	15-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
Spikebox-----	0-6	15-70	10-77	8-20	1.30-1.55	0.6-2	0.13-0.19	0.0-2.9	0.2-1.0	.37	.37	1	5	56
	6-14	15-70	10-77	8-20	1.30-1.70	0.6-6	0.10-0.19	0.0-2.9	0.2-0.8	.32	.37			
	14-40	---	---	---	1.85-2.35	0.2-0.6	---	---	---	---	---			

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
Brie: Brico-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-11	23-53	27-50	15-27	1.30-1.55	0.6-2	0.11-0.20	0.0-2.9	1.0-3.0	.15	.37	4	8	0
	11-24	0-45	0-45	35-60	1.35-1.60	0.2-0.6	0.04-0.13	3.0-5.9	0.5-1.0	.24	.32			
	24-40	0-45	0-45	35-60	1.35-1.60	0.2-0.6	0.04-0.13	3.0-5.9	0.5-1.0	.24	.32			
	40-72	20-45	15-53	27-35	1.45-1.70	0.2-0.6	0.04-0.13	3.0-5.9	0.0-0.5	.28	.32			
Buka: Bukreek-----	0-11	23-55	27-50	18-27	1.30-1.55	0.6-2	0.13-0.20	0.0-2.9	1.0-3.0	.37	.37	4	6	48
	11-18	20-80	0-50	25-35	1.30-1.70	0.6-2	0.13-0.20	2.0-5.9	0.8-2.0	.32	.32			
	18-30	20-80	0-50	25-35	1.30-1.70	0.6-2	0.13-0.20	2.0-5.9	0.5-1.0	.32	.32			
	30-74	20-80	0-50	25-35	1.30-1.70	0.6-2	0.13-0.17	0.0-2.9	0.1-0.7	.32	.32			
	74-80	23-85	0-50	15-30	1.35-1.70	0.6-6	0.10-0.18	0.0-2.9	0.1-0.5	.32	.32			
CarB: Carey-----	0-15	25-53	27-50	10-25	1.30-1.55	0.6-2	0.13-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	15-42	10-50	20-70	20-35	1.30-1.70	0.6-2	0.13-0.20	2.0-5.9	0.5-1.2	.32	.32			
	42-65	10-80	10-80	10-27	1.30-1.65	0.6-6	0.10-0.18	0.0-2.9	0.1-0.5	.37	.37			
	65-80	10-80	10-80	10-27	1.70-2.25	0.2-2	0.05-0.15	0.0-2.9	0.0-0.3	.37	.37			
Cawa: Carwile-----	0-15	43-85	0-40	5-18	1.40-1.65	2-6	0.10-0.16	0.0-2.9	1.0-3.0	.32	.32	5	3	86
	15-27	30-80	0-45	25-50	1.35-1.70	0.06-0.2	0.12-0.20	3.0-8.9	0.5-1.0	.37	.32			
	27-57	30-80	0-50	20-50	1.35-1.70	0.06-2	0.12-0.20	3.0-8.9	0.0-0.5	.37	.32			
	57-80	43-85	0-47	10-30	1.40-1.70	0.6-6	0.10-0.19	0.0-5.9	0.0-0.5	.32	.28			
CVRD: Cottonwood-----	0-5	0-32	50-82	18-27	1.30-1.50	0.6-2	0.11-0.18	0.0-2.9	0.5-1.0	.37	.37	1	4L	86
	5-8	0-53	15-82	18-35	1.30-1.70	0.6-2	0.11-0.18	0.0-2.9	0.1-0.5	.37	.37			
	8-40	---	---	---	1.85-2.35	0.0015-0.06	---	---	---	---	---			
Vinson-----	0-4	0-50	50-88	15-27	1.25-1.50	0.6-2	0.15-0.22	0.0-2.9	1.0-2.0	.37	.37	3	4L	86
	4-15	0-53	15-82	18-30	1.30-1.75	0.6-2	0.15-0.22	3.0-5.9	0.5-1.5	.32	.32			
	15-22	0-53	15-82	18-30	1.30-1.75	0.6-2	0.15-0.22	3.0-5.9	0.0-0.5	.32	.32			
	22-28	---	---	---	1.85-2.00	0.2-0.6	---	---	---	---	---			
	28-60	---	---	---	1.85-2.35	0.0015-0.06	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	1.85-2.35	0.0015-0.06	---	---	---	---	---	---	---	---
DAM: Dam-----	0-80	---	---	---	---	0.06-2	---	---	---	---	---	---	---	---

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth In	Sand Pct	Silt Pct	Clay Pct	Moist bulk density g/cc	Permea- bility In/hr	Available water capacity In/in	Linear extensi- bility Pct	Organic matter Pct	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
DeSD: Devol-----	0-8	70-90	0-30	2-8	1.45-1.70	6-20	0.06-0.10	0.0-2.9	0.2-1.0	.17	.17	5	2	134
	8-28	43-90	0-50	8-18	1.40-1.70	2-6	0.07-0.15	0.0-2.9	0.0-0.5	.20	.20			
	28-47	43-90	0-50	2-18	1.40-1.70	2-20	0.07-0.15	0.0-2.9	0.0-0.5	.20	.20			
	47-62	43-100	0-50	2-10	1.50-1.75	2-20	0.05-0.12	0.0-2.9	0.0-0.2	.20	.20			
	62-80	43-100	0-50	2-10	1.50-1.75	2-20	0.05-0.12	0.0-2.9	0.0-0.2	.17	.17			
Springer-----	0-15	70-90	0-30	2-10	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.2-1.0	.17	.17	5	2	134
	15-41	43-90	0-50	6-18	1.40-1.70	2-6	0.07-0.15	0.0-2.9	0.1-0.5	.20	.20			
	41-52	43-100	0-50	2-12	1.50-1.75	6-20	0.02-0.10	0.0-2.9	0.1-0.5	.20	.20			
	52-70	43-85	0-50	10-25	1.40-1.70	0.6-6	0.10-0.16	0.0-2.9	0.1-0.5	.24	.24			
	70-80	43-100	0-50	2-12	1.50-1.75	2-20	0.05-0.12	0.0-2.9	0.0-0.2	.20	.20			
DkuA: Duke-----	0-5	0-20	40-60	40-60	1.30-1.50	0.2-0.6	0.12-0.18	6.0-8.9	1.0-3.0	.37	.37	5	4	86
	5-12	0-45	20-65	35-65	1.30-1.70	0.0015-0.06	0.08-0.18	6.0-8.9	0.3-1.5	.37	.37			
	12-44	0-45	20-65	35-65	1.30-1.70	0.0015-0.06	0.08-0.18	6.0-8.9	0.3-0.8	.37	.37			
	44-80	0-45	20-80	15-60	1.30-1.70	0.0015-2	0.10-0.20	2.0-8.9	0.1-0.8	.37	.37			
DodA: Dodson-----	0-7	23-53	27-50	18-27	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	7-37	0-45	10-65	30-45	1.30-1.70	0.2-0.6	0.14-0.20	3.0-8.9	1.0-2.0	.32	.32			
	37-56	0-53	15-80	20-40	1.30-1.70	0.2-2	0.14-0.20	3.0-5.9	0.5-1.0	.32	.32			
	56-72	0-80	0-80	15-35	1.30-1.70	0.2-2	0.14-0.20	3.0-5.9	0.2-0.8	.32	.32			
	72-80	0-85	0-85	10-35	1.30-1.70	0.2-6	0.10-0.20	1.0-5.9	0.1-0.5	.32	.32			
DodB: Dodson-----	0-6	23-53	27-50	18-27	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	6-26	0-45	10-65	30-45	1.30-1.70	0.2-0.6	0.14-0.20	3.0-8.9	1.0-2.0	.32	.32			
	26-56	0-53	15-80	20-40	1.30-1.70	0.2-2	0.14-0.20	3.0-5.9	0.5-1.0	.32	.32			
	56-83	0-80	0-80	15-35	1.30-1.70	0.2-2	0.14-0.20	3.0-5.9	0.2-0.8	.32	.32			
	83-91	0-85	0-85	10-45	1.30-1.70	0.2-6	0.07-0.20	0.0-8.9	0.1-0.5	.32	.32			
Eata: Eastall-----	0-12	0-20	40-60	40-60	1.25-1.45	0.0015-0.06	0.12-0.18	6.0-15.0	0.5-2.0	.37	.37	5	4	86
	12-19	0-45	0-60	40-60	1.30-1.55	0.0015-0.06	0.12-0.18	6.0-15.0	0.1-1.0	.37	.37			
	19-56	0-45	0-60	40-60	1.30-1.60	0.0015-0.06	0.12-0.18	6.0-15.0	0.1-1.0	.37	.37			
	56-76	0-45	0-60	40-60	1.30-1.60	0.0015-0.06	0.12-0.18	6.0-15.0	0.1-1.0	.37	.37			
	76-95	0-45	0-73	30-60	1.30-1.70	0.06-0.2	0.12-0.22	6.0-15.0	0.1-0.5	.37	.37			
EdsB: Eda-----	0-11	86-100	0-14	1-7	1.50-1.65	6-20	0.02-0.06	0.0-2.9	0.5-1.0	.10	.10	5	1	220
	11-35	70-100	0-30	1-8	1.50-1.75	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.15	.15			
	35-80	70-100	0-30	1-8	1.50-1.75	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.15	.15			

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility index
										Kw	Kf	T	
Edsd: Eda-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				
	0-13	86-100	0-14	1-7	1.50-1.65	6-20	0.02-0.06	0.0-2.9	0.5-1.0	.10	.10	5	1
	13-50	70-100	0-30	1-8	1.50-1.75	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.15	.15		220
Edsf: Eda-----	50-80	70-100	0-30	1-8	1.50-1.75	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.15	.15		
	0-18	86-100	0-14	1-7	1.50-1.65	6-20	0.02-0.06	0.0-2.9	0.5-1.0	.10	.10	5	1
	18-40	70-100	0-30	1-8	1.50-1.75	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.15	.15		220
FraB: Frankirk-----	40-80	70-100	0-30	1-8	1.50-1.75	6-20	0.02-0.11	0.0-2.9	0.0-0.5	.15	.15		
	0-6	23-53	27-50	18-27	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6
	6-18	0-80	0-53	27-45	1.30-1.70	0.2-0.6	0.12-0.18	3.0-5.9	1.0-2.0	.37	.37		48
FryB: Farry-----	18-52	0-65	0-45	35-45	1.30-1.70	0.2-0.6	0.12-0.18	3.0-5.9	0.5-1.5	.37	.37		
	52-65	20-80	0-53	20-30	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.2-0.8	.37	.37		
	65-80	20-80	0-53	20-30	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.37	.37		
GdfB: Grandfield-----	0-7	30-53	27-50	10-22	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5
	7-11	20-70	10-50	18-32	1.30-1.70	0.6-2	0.12-0.20	0.0-5.9	0.5-2.0	.37	.37		56
	11-50	20-70	10-50	18-32	1.30-1.70	0.6-2	0.12-0.20	0.0-5.9	0.5-1.0	.37	.37		
GLGB: Grandmore-----	50-63	30-80	5-50	18-27	1.30-1.70	0.6-6	0.10-0.20	0.0-3.9	0.2-0.8	.37	.37		
	63-75	30-90	0-50	5-27	1.35-1.70	0.6-20	0.06-0.20	0.0-2.9	0.0-0.5	.37	.37		
	75-84	30-95	0-50	3-20	1.35-1.70	0.6-20	0.02-0.18	0.0-2.9	0.0-0.5	.37	.37		
Grandfield-----	0-15	43-85	0-50	10-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	0.5-1.0	.24	.24	5	3
	15-32	45-80	0-27	18-30	1.45-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32		86
	32-49	45-85	0-35	13-30	1.40-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32		
Grandmore-----	49-56	43-90	0-50	5-25	1.40-1.70	0.6-6	0.11-0.15	0.0-2.9	0.0-0.5	.28	.28		
	56-80	43-95	0-50	3-20	1.40-1.70	2-20	0.02-0.15	0.0-2.9	0.0-0.2	.28	.28		
	0-18	70-90	0-30	3-10	1.40-1.65	6-20	0.06-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2
Grandfield-----	18-38	45-80	0-27	18-30	1.40-1.70	0.6-2	0.14-0.19	0.0-2.9	0.5-1.0	.32	.32		134
	38-46	43-85	0-33	15-30	1.40-1.70	0.6-2	0.11-0.19	0.0-2.9	0.3-0.7	.32	.32		
	46-61	20-45	0-53	30-45	1.35-1.65	0.2-0.6	0.12-0.20	3.0-5.9	0.0-0.7	.32	.32		
Grandfield-----	61-80	20-85	0-53	10-45	1.35-1.65	0.2-6	0.10-0.20	0.0-5.9	0.0-0.7	.32	.32		
	0-8	70-90	0-30	3-10	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2
	8-28	45-80	0-30	18-30	1.45-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32		134
Grandfield-----	28-55	45-85	0-35	13-30	1.40-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32		
	55-75	43-90	0-50	5-25	1.40-1.70	0.6-20	0.06-0.16	0.0-2.9	0.0-0.5	.28	.28		
	75-80	43-95	0-50	3-20	1.40-1.70	2-20	0.02-0.16	0.0-2.9	0.0-0.5	.28	.28		

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
GlsB: Grandfield-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-7	75-90	0-30	3-10	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	7-21	45-80	0-30	18-30	1.45-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32			
	21-44	45-85	0-35	13-30	1.40-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32			
	44-72	43-90	0-50	5-25	1.40-1.70	0.6-20	0.06-0.16	0.0-2.9	0.0-0.5	.28	.28			
GlsD: Grandfield-----	72-80	43-95	0-50	3-20	1.40-1.70	2-20	0.02-0.16	0.0-2.9	0.0-0.2	.20	.20			
	0-13	75-90	0-30	3-10	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	13-34	45-80	0-30	18-30	1.45-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32			
	34-47	45-85	0-35	13-30	1.40-1.70	0.6-2	0.11-0.17	0.0-2.9	0.3-0.7	.32	.32			
	47-58	43-90	0-50	5-25	1.40-1.70	0.6-20	0.06-0.16	0.0-2.9	0.0-0.5	.28	.28			
GmuA: Gracemont, saline---	58-80	43-95	0-50	3-20	1.40-1.70	2-20	0.02-0.16	0.0-2.9	0.0-0.2	.20	.20			
	0-6	43-85	0-50	10-18	1.40-1.65	0.6-6	0.13-0.19	0.0-2.9	0.0-0.5	.20	.20	5	3	86
	6-20	32-85	0-50	10-18	1.40-1.70	0.6-6	0.13-0.19	0.0-2.9	0.0-0.5	.20	.20			
	20-80	20-90	0-53	7-32	1.40-1.75	0.6-20	0.06-0.20	0.0-2.9	0.0-0.5	.20	.20			
	0-4	43-85	0-50	10-18	1.40-1.65	0.6-6	0.13-0.19	0.0-2.9	0.0-0.5	.20	.20	5	3	86
GmwA: Gracemont, saline---	4-35	32-85	0-50	10-18	1.40-1.70	0.6-6	0.13-0.19	0.0-2.9	0.0-0.5	.20	.20			
	35-80	20-90	0-53	5-32	1.40-1.75	0.6-20	0.06-0.20	0.0-2.9	0.0-0.5	.20	.20			
	0-7	20-45	20-50	27-35	1.30-1.60	0.6-2	0.15-0.20	3.0-5.9	0.5-1.0	.28	.28	5	4L	86
	7-17	70-100	0-30	2-10	1.50-1.70	2-20	0.03-0.10	0.0-2.9	0.0-0.5	.15	.15			
	17-80	70-100	0-30	1-10	1.50-1.70	6-20	0.03-0.10	0.0-2.9	0.0-0.2	.15	.15			
Gtbb: Gotebo-----	0-8	33-53	30-50	10-18	1.30-1.55	0.6-2	0.13-0.20	0.0-2.9	0.5-1.5	.37	.37	3	5	56
	8-17	0-53	30-88	10-18	1.30-1.65	0.6-2	0.13-0.20	0.0-2.9	0.2-1.0	.37	.37			
	17-26	0-53	30-88	10-18	1.30-1.65	0.6-2	0.13-0.20	0.0-2.9	0.1-0.5	.37	.37			
	26-80	0-80	10-88	5-18	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37			
	0-6	43-85	0-50	10-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24	5	3	86
HdmB: Hardeman-----	6-46	32-85	0-50	12-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28			
	46-80	32-85	0-50	12-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28			
	0-13	43-85	0-50	10-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	13-35	32-85	0-50	12-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28			
	35-62	32-85	0-50	12-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28			
HdmC: Hardeman-----	62-80	32-90	0-50	5-18	1.35-1.55	2-20	0.07-0.15	0.0-2.9	0.1-0.5	.28	.28			

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
HfKA: Hayfork-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-11	0-20	40-73	27-40	1.30-1.50	0.2-0.6	0.14-0.20	3.0-5.9	1.0-3.0	.37	.37	5	7	38
	11-27	0-35	25-65	35-50	1.30-1.70	0.06-0.2	0.14-0.20	3.0-7.9	1.0-2.0	.32	.32			
	27-41	0-35	25-73	27-50	1.30-1.70	0.06-0.2	0.10-0.20	3.0-7.9	1.0-2.0	.32	.32			
	41-50	0-35	25-73	27-50	1.30-1.70	0.06-0.6	0.10-0.20	3.0-7.9	0.2-1.0	.32	.32			
HksA: Headrick-----	50-60	0-35	25-73	27-50	1.30-1.70	0.06-0.6	0.10-0.20	3.0-7.9	0.0-1.0	.32	.32			
	0-5	70-90	0-30	3-10	1.40-1.65	6-20	0.06-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	5-32	45-80	0-22	18-30	1.40-1.70	0.6-2	0.11-0.17	0.0-2.9	0.5-1.0	.32	.32			
	32-66	0-45	0-53	30-50	1.30-1.70	0.2-0.6	0.12-0.20	3.0-5.9	0.0-1.0	.32	.32			
	66-80	0-80	0-73	30-50	1.30-1.70	0.2-0.6	0.10-0.20	3.0-5.9	0.0-1.0	.32	.32			
HolA: Hollister-----	0-9	0-20	40-73	30-40	1.30-1.50	0.2-0.6	0.15-0.22	6.0-8.9	1.0-3.0	.43	.43	5	6	48
	9-23	0-45	0-65	35-50	1.30-1.65	0.0015-0.06	0.12-0.20	6.0-8.9	1.0-2.0	.32	.32			
	23-72	0-45	0-65	35-50	1.30-1.65	0.0015-0.06	0.12-0.20	6.0-8.9	0.1-0.8	.32	.32			
	72-110	0-45	0-65	35-50	1.30-1.65	0.0015-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.32	.32			
	110-138	0-45	0-65	35-50	1.30-2.00	0.0000-0.2	0.10-0.17	6.0-8.9	0.0-0.2	.32	.32			
HrAC: Harmon-----	0-7	0-50	50-88	10-25	1.30-1.55	0.6-2	0.10-0.14	0.0-2.9	0.0-1.0	.20	.37	2	4L	86
	7-16	0-50	50-88	10-25	1.30-1.55	0.6-2	0.04-0.12	0.0-2.9	0.0-1.0	.10	.37			
	16-40	---	---	---	1.85-2.35	0.0000-0.2	---	---	---	---	---			
	0-5	0-32	50-82	18-27	1.25-1.55	0.6-2	0.15-0.24	1.0-5.9	0.5-2.0	.37	.37	4	4L	86
	5-40	0-53	15-82	20-35	1.30-1.70	0.2-2	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
Aspermont-----	40-50	0-53	15-82	20-40	1.30-1.70	0.2-2	0.12-0.22	3.0-5.9	0.0-0.5	.37	.37			
	50-80	0-53	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
HSAF: Hardeman-----	0-14	43-85	0-50	10-18	1.35-1.65	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	14-20	32-85	0-50	12-18	1.35-1.70	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28			
	20-46	32-85	0-50	12-18	1.35-1.70	2-6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.28			
	46-80	32-90	0-50	5-18	1.35-1.70	2-20	0.07-0.15	0.0-2.9	0.0-0.3	.28	.28			
Southside-----	0-6	43-85	0-50	5-15	1.40-1.65	2-6	0.05-0.10	0.0-2.9	0.1-1.0	.15	.20	5	3	86
	6-28	70-100	0-30	1-10	1.50-1.75	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.10	.15			
	28-80	70-100	0-30	1-10	1.50-1.75	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.10	.15			
Arnett-----	0-5	43-85	0-50	10-20	1.40-1.65	2-6	0.10-0.19	0.0-3.0	0.5-1.0	.24	.24	5	3	86
	5-41	20-80	0-53	18-35	1.30-1.70	0.6-2	0.12-0.20	2.0-6.0	0.1-0.7	.28	.32			
	41-70	20-85	0-53	10-30	1.30-1.70	0.6-6	0.05-0.17	0.0-3.0	0.0-0.5	.20	.32			
	70-80	20-90	0-53	7-35	1.30-1.70	0.6-6	0.04-0.18	0.0-3.0	0.0-0.5	.20	.28			

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility index
										Kw	Kf	T	
Jesc: Jester-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				
	0-7	86-100	0-14	1-10	1.50-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.15	.15	5	220
	7-45	70-100	0-30	1-10	1.50-1.75	6-20	0.02-0.08	0.0-2.9	0.0-0.5	.15	.15		
	45-80	70-100	0-30	1-10	1.50-1.75	6-20	0.02-0.08	0.0-2.9	0.0-0.5	.15	.15		
KcRG: Knoco, bouldery----	0-3	0-20	40-60	40-60	1.25-1.55	0.0015-0.06	0.10-0.15	1.0-4.0	0.5-1.0	.32	.32	1	0
	3-9	0-45	0-60	40-60	1.45-1.70	0.0015-0.06	0.03-0.10	1.0-4.0	0.0-0.5	.32	.32		
	9-60	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
Rock outcrop-----	0-60	---	---	---	1.85-2.35	0.0000-0.06	---	---	---	---	---	---	---
KoBE: Knoco-----	0-6	0-20	40-60	40-60	1.25-1.55	0.0015-0.06	0.10-0.15	1.0-4.0	0.5-1.0	.32	.37	1	86
	6-16	0-45	0-60	40-60	1.45-1.70	0.0015-0.06	0.03-0.10	1.0-4.0	0.1-0.5	.32	.32		
	16-60	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
Badland-----	0-60	---	---	---	1.85-2.35	0.0000-0.2	0.01-0.03	---	---	---	---	---	---
KRCF: Knoco-----	0-3	0-20	40-60	40-60	1.35-1.55	0.0015-0.06	0.10-0.15	6.0-8.9	0.5-1.0	.32	.37	1	86
	3-12	0-45	0-60	40-60	1.45-1.70	0.0015-0.06	0.03-0.10	1.0-4.0	0.0-0.5	.32	.32		
	12-60	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
Rock outcrop-----	0-60	---	---	---	1.85-2.35	0.0015-0.06	---	---	---	---	---	8	0
Cottonwood-----	0-4	0-32	50-82	18-27	1.30-1.50	0.6-2	0.11-0.18	0.0-2.9	0.5-1.0	.37	.37	1	86
	4-40	---	---	---	1.85-2.35	0.0015-0.06	---	---	---	---	---		
LacB: La Casa-----	0-6	0-20	40-73	27-35	1.30-1.55	0.2-0.6	0.15-0.22	3.0-5.9	1.0-3.0	.37	.37	5	48
	6-12	0-45	0-65	35-45	1.30-1.70	0.06-0.2	0.12-0.22	3.0-5.9	1.0-2.0	.37	.37		
	12-34	0-45	0-65	35-45	1.30-1.70	0.06-0.2	0.10-0.22	3.0-5.9	0.1-0.5	.32	.32		
	34-64	0-45	0-73	30-45	1.30-1.70	0.06-0.6	0.10-0.22	3.0-5.9	0.1-0.5	.37	.37		
	64-81	0-45	0-73	30-45	1.30-1.70	0.06-0.6	0.10-0.22	3.0-5.9	0.0-0.3	.37	.37		
	81-91	0-45	0-73	30-50	1.30-2.00	0.0000-0.6	0.06-0.15	6.0-8.9	0.0-0.1	.32	.32		
LnuA: Lincoln-----	0-8	70-90	0-30	1-15	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.17	.17	5	134
	8-21	32-100	0-50	1-10	1.50-1.75	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.17	.17		
	21-80	32-100	0-50	1-10	1.50-1.75	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.17	.17		
LnWA: Lincoln-----	0-5	70-90	0-30	1-15	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.17	.17	5	134
	5-15	32-100	0-50	1-10	1.50-1.75	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.17	.17		
	15-80	32-100	0-50	1-10	1.50-1.75	6-20	0.02-0.10	0.0-2.9	0.0-0.5	.17	.17		



# Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
Westola-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-5	43-85	0-50	10-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	5-30	32-85	0-50	5-18	1.30-1.70	2-6	0.10-0.20	0.0-2.9	0.0-0.5	.32	.32			
	30-80	32-100	0-50	5-18	1.30-1.70	2-6	0.07-0.20	0.0-2.9	0.0-0.5	.32	.32			
LwtA: Lawton-----	0-6	25-50	30-50	18-27	1.30-1.55	0.6-2	0.13-0.19	1.0-2.9	1.0-3.0	.32	.37	5	6	48
	6-9	20-50	20-50	20-35	1.30-1.70	0.2-2	0.14-0.20	1.0-5.9	1.0-3.0	.32	.37			
	9-34	20-45	20-45	35-40	1.30-1.70	0.2-0.6	0.14-0.20	3.0-7.0	0.5-3.0	.28	.32			
	34-75	20-45	20-50	25-50	1.30-1.70	0.2-2	0.08-0.18	1.0-7.0	0.2-1.0	.28	.37			
	75-80	20-70	10-50	20-40	1.30-1.70	0.6-2	0.08-0.18	1.0-5.9	0.0-1.0	.28	.37			
LwtB: Lawton-----	0-6	25-50	30-50	18-27	1.30-1.55	0.6-2	0.13-0.19	1.0-2.9	1.0-3.0	.32	.37	5	6	48
	6-28	20-45	20-50	35-40	1.30-1.70	0.2-0.6	0.14-0.20	3.0-7.0	0.5-3.0	.28	.32			
	28-56	20-45	20-50	35-40	1.30-1.70	0.2-0.6	0.14-0.20	3.0-7.0	0.5-1.0	.28	.32			
	56-75	20-45	20-50	25-50	1.30-1.70	0.2-2	0.08-0.18	1.0-7.0	0.2-1.0	.28	.37			
	75-80	20-70	10-50	20-40	1.30-1.70	0.6-2	0.08-0.18	1.0-5.9	0.0-1.0	.28	.37			
LwtC2: Lawton, moderately eroded-----	0-5	25-50	30-50	18-27	1.30-1.55	0.6-2	0.13-0.19	1.0-2.9	1.0-2.0	.32	.37	5	6	48
	5-45	20-45	20-50	35-40	1.30-1.70	0.2-0.6	0.14-0.20	3.0-7.0	0.5-3.0	.28	.32			
	45-62	20-45	20-50	25-50	1.30-1.70	0.2-2	0.08-0.18	1.0-7.0	0.2-1.0	.28	.37			
	62-80	20-70	10-50	20-35	1.30-1.70	0.6-2	0.08-0.18	1.0-5.9	0.0-1.0	.28	.37			
M-W: Water, Miscellaneous	0-80	---	---	---	---	---	---	---	---	---	---	---	---	---
MagB: Madge-----	0-13	22-53	27-50	15-25	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	13-25	20-80	10-50	18-35	1.30-1.70	0.6-2	0.12-0.20	2.0-5.9	0.5-2.0	.37	.37			
	25-41	20-80	5-50	10-35	1.30-1.70	0.6-6	0.10-0.20	1.0-5.9	0.2-0.8	.37	.37			
	41-57	30-90	0-50	5-27	1.35-1.70	0.6-6	0.06-0.20	0.0-2.9	0.0-0.5	.37	.37			
	57-80	30-95	0-50	3-25	1.35-1.70	0.6-20	0.02-0.18	0.0-2.9	0.0-0.5	.37	.37			
MdGB: Madge-----	0-5	52-80	2-60	8-18	1.40-1.65	2-6	0.10-0.15	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	5-43	20-80	10-50	18-35	1.30-1.70	0.6-2	0.12-0.20	1.0-5.9	0.5-2.0	.37	.37			
	43-49	20-80	5-50	10-35	1.30-1.70	0.6-6	0.10-0.20	0.5-5.9	0.2-0.8	.37	.37			
	49-56	30-90	0-50	5-27	1.35-1.70	0.6-6	0.06-0.20	0.0-2.9	0.0-0.5	.37	.37			
	56-80	30-95	0-50	3-25	1.35-1.70	0.6-20	0.02-0.18	0.0-2.9	0.0-0.5	.37	.37			
MknB: Mcknight-----	0-7	43-85	0-50	10-18	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.32	.32	4	3	86
	7-35	45-80	0-27	18-30	1.40-1.70	0.6-2	0.10-0.17	0.0-2.9	0.2-1.0	.37	.37			
	35-53	0-45	0-65	35-60	1.30-1.70	0.06-0.6	0.10-0.18	4.0-8.9	0.1-0.5	.32	.37			
	53-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
MktB: Mcknight-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-14	70-90	0-30	5-10	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.5-1.0	.24	.24	4	2	134
	14-29	45-80	0-27	18-30	1.40-1.70	0.6-2	0.10-0.17	0.0-2.9	0.2-1.0	.37	.37			
	29-36	0-45	0-65	35-60	1.30-1.70	0.06-0.6	0.10-0.18	4.0-8.9	0.1-0.5	.32	.37			
	36-52	0-45	0-65	35-60	1.30-1.85	0.06-0.6	0.10-0.15	4.0-8.9	0.1-0.5	.32	.37			
MktC2: Mcknight, moderately eroded-----	52-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
	0-7	70-90	0-30	5-10	1.45-1.65	6-20	0.06-0.10	0.0-2.9	0.2-0.8	.24	.24	4	2	134
	7-35	45-80	0-27	18-30	1.40-1.70	0.6-2	0.10-0.17	0.0-2.9	0.2-1.0	.37	.37			
	35-51	0-45	0-65	35-60	1.30-1.70	0.06-0.6	0.10-0.15	4.0-8.9	0.1-0.5	.32	.37			
	51-80	0-45	0-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
NpsB: Nipsun-----	0-20	0-20	40-65	35-40	1.25-1.50	0.06-0.6	0.13-0.20	3.0-5.9	1.0-3.0	.37	.37	5	4	86
	20-27	0-45	10-65	35-55	1.30-1.65	0.06-0.2	0.10-0.18	3.0-5.9	1.0-3.0	.32	.32			
	27-40	0-45	10-65	35-55	1.30-1.75	0.06-0.2	0.10-0.18	3.0-5.9	0.2-1.2	.32	.32			
	40-62	0-45	10-65	28-55	1.30-1.75	0.06-0.6	0.10-0.18	3.0-5.9	0.0-0.8	.32	.32			
	62-80	0-45	10-65	28-55	1.30-1.75	0.06-0.6	0.10-0.18	3.0-5.9	0.0-0.5	.32	.32			
NstC: Nobscot-----	0-5	86-100	0-14	1-8	1.50-1.65	6-20	0.02-0.06	0.0-1.0	0.2-1.0	.15	.15	5	1	220
	5-23	70-100	0-30	1-10	1.50-1.75	6-20	0.02-0.11	0.0-1.0	0.1-0.5	.15	.15			
	23-53	50-85	0-50	8-15	1.50-1.70	2-6	0.10-0.15	0.0-2.9	0.1-0.8	.20	.20			
	53-71	50-95	0-50	2-15	1.55-1.70	2-6	0.05-0.15	0.0-2.9	0.0-0.3	.17	.17			
	71-80	70-100	0-30	2-10	1.55-1.75	6-20	0.02-0.11	0.0-1.0	0.0-0.2	.15	.15			
OakA: Oakley-----	0-12	23-53	27-50	15-25	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-2.0	.37	.37	4	4L	86
	12-43	20-80	0-53	20-35	1.30-1.70	0.2-2	0.14-0.20	0.0-2.9	0.1-0.5	.32	.32			
	43-58	20-80	0-53	20-35	1.30-1.70	0.2-2	0.14-0.20	0.0-2.9	0.1-0.5	.32	.32			
	58-85	20-85	0-53	5-30	1.30-1.70	0.6-6	0.07-0.20	0.0-2.9	0.0-0.5	.32	.32			
	85-95	20-90	0-53	5-30	1.30-1.70	0.6-6	0.07-0.20	0.0-2.9	0.0-0.5	.32	.32			
OakB: Oakley-----	95-120	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
	0-7	25-53	27-50	15-25	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-2.0	.37	.37	4	4L	86
	7-41	20-80	0-53	20-35	1.30-1.70	0.2-2	0.14-0.20	0.0-2.9	0.1-0.5	.32	.32			
	41-49	20-80	0-53	20-35	1.30-1.70	0.2-2	0.14-0.20	0.0-2.9	0.1-0.5	.32	.32			
	49-72	20-85	0-53	5-30	1.30-1.70	0.6-6	0.07-0.20	0.0-2.9	0.0-0.5	.32	.32			
	72-95	20-90	0-53	5-30	1.30-1.70	0.6-6	0.07-0.20	0.0-2.9	0.0-0.5	.32	.32			
	95-120	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility index
										Kw	Kf	T	
Ozka: Ozark-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				
	0-11	43-85	0-50	8-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	1.0-2.0	.24	.24	5	86
	11-24	20-80	0-53	20-35	1.30-1.70	0.2-2	0.10-0.20	1.0-5.9	0.5-2.0	.32	.32		
	24-50	20-80	0-53	20-45	1.30-1.70	0.2-2	0.10-0.20	1.0-5.9	0.2-1.0	.32	.32		
	50-59	20-80	0-53	20-45	1.30-1.70	0.2-2	0.10-0.20	1.0-5.9	0.2-1.0	.32	.32		
	59-83	20-85	0-53	8-35	1.30-1.70	0.2-6	0.10-0.20	0.0-2.9	0.1-0.5	.32	.32		
PIT: Pits-----	83-105	0-45	0-65	30-50	1.30-1.70	0.06-0.6	0.10-0.22	3.0-8.9	0.0-0.3	.32	.32		
	105-120	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
	0-80	---	---	---	1.85-2.35	0.0000-0.2	---	---	---	---	---	---	---
QHTC: Quanah-----	0-14	0-20	40-73	27-35	1.30-1.50	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	4	86
	14-22	0-53	20-80	20-40	1.30-1.50	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.37	.37		
	22-36	0-53	20-80	20-40	1.35-1.55	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.37	.37		
	36-82	0-53	20-80	20-40	1.35-1.55	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.37	.37		
Talpa-----	0-10	23-53	27-50	20-27	1.30-1.45	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.32	.32	1	86
	10-20	---	---	---	1.85-2.35	0.0000-0.06	---	---	---	---	---		
QnRG: Quinlan-----	0-5	43-80	10-50	10-18	1.30-1.55	0.6-6	0.13-0.20	0.0-2.9	0.5-1.0	.37	.37	2	86
	5-11	10-80	10-80	10-27	1.30-1.70	0.6-6	0.07-0.22	0.0-2.9	0.2-1.0	.37	.37		
	11-40	10-80	10-80	5-27	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37		
Rock outcrop-----	0-62	---	---	---	1.85-2.00	0.2-0.6	---	---	---	---	---	8	0
RakA: Roark-----	0-10	23-53	27-50	15-27	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.43	.43	5	48
	10-24	0-45	0-65	35-45	1.30-1.70	0.06-0.2	0.14-0.22	3.0-5.9	1.0-2.0	.37	.37		
	24-34	0-45	0-65	35-45	1.30-1.70	0.06-0.2	0.14-0.22	3.0-5.9	0.5-1.0	.37	.37		
	34-49	0-45	0-65	35-45	1.30-1.70	0.06-0.6	0.14-0.22	3.0-5.9	0.5-1.0	.37	.37		
	49-67	0-85	0-73	15-35	1.30-1.70	0.2-2	0.13-0.22	0.0-5.9	0.2-1.0	.32	.32		
	67-80	20-90	0-53	5-40	1.30-1.70	0.2-6	0.06-0.18	0.0-5.9	0.0-0.5	.32	.32		
RKBG: Rock outcrop, granite-----	0-60	---	---	---	1.85-2.35	0.0000-0.0015	---	---	---	---	---	---	---
Brico-----	0-10	23-53	27-50	15-27	1.30-1.55	0.6-2	0.11-0.20	0.0-2.9	1.0-3.0	.15	.37	4	0
	10-35	0-45	0-45	35-60	1.35-1.60	0.2-0.6	0.04-0.13	3.0-5.9	0.5-1.0	.24	.32		
	35-72	20-45	15-53	27-35	1.45-1.70	0.2-0.6	0.04-0.13	3.0-5.9	0.0-0.5	.28	.32		

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
RKO: Rock outcrop, granite-----	In 0-60	Pct ---	Pct ---	Pct ---	g/cc 1.85-2.35	In/hr 0.0000-0.0015	In/in ---	Pct ---	Pct ---	---	---	---	---	---
RuuA: Rups-----	0-7 7-21 21-43 43-80	0-20 0-45 0-45 0-45	40-73 15-82 15-82 0-73	27-35 25-35 25-35 27-45	1.30-1.55 1.30-1.70 1.30-1.70 1.30-1.70	0.2-2 0.2-2 0.2-2 0.06-0.6	0.08-0.20 0.02-0.18 0.02-0.18 0.02-0.18	3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	1.0-3.0 0.1-1.0 0.1-1.0 0.1-1.0	.32 .32 .32 .32	.32 .32 .32 .32	5	6	48
RuWA: Rups-----	0-15 15-30 30-48 48-80	0-20 0-45 0-45 0-45	40-73 15-82 15-82 0-73	27-35 25-35 25-35 27-45	1.30-1.55 1.30-1.70 1.30-1.70 1.30-1.70	0.2-2 0.2-2 0.2-2 0.06-0.6	0.08-0.20 0.02-0.18 0.02-0.18 0.02-0.18	3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	1.0-3.0 0.1-1.0 0.1-1.0 0.1-1.0	.32 .32 .32 .32	.32 .32 .32 .32	5	6	48
SKRG: Spikebox-----	0-3 3-12 12-40	15-70 15-70 ---	10-77 10-77 ---	8-20 8-20 ---	1.30-1.55 1.30-1.70 1.85-2.35	0.6-2 0.6-6 0.2-0.6	0.13-0.19 0.10-0.19 ---	0.0-2.9 0.0-2.9 ---	0.2-1.0 0.2-0.8 ---	.37 .32 ---	.37 .32 ---	1	5	56
Knoco-----	0-5 5-11 11-80	0-20 0-30 0-30	40-60 20-60 20-60	40-60 40-60 40-60	1.25-1.55 1.45-1.70 1.70-2.25	0.0015-0.06 0.0015-0.06 0.0000-0.06	0.10-0.15 0.03-0.10 0.01-0.03	1.0-6.0 1.0-4.0 1.0-4.0	0.5-1.0 0.0-0.5 0.0-0.3	.32 .32 .32	.37 .32 .32	1	4	86
Rock outcrop-----	0-62	---	---	---	1.85-2.35	0.0015-2	---	---	---	---	---	---	8	0
SpDB: Springer-----	0-13 13-42 42-57 57-80	70-90 43-90 70-100 43-85	0-30 0-50 0-50 0-50	2-10 6-18 2-12 10-25	1.45-1.65 1.40-1.70 1.50-1.75 1.40-1.70	6-20 2-6 6-20 0.6-6	0.06-0.10 0.07-0.15 0.02-0.10 0.10-0.16	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.2-1.0 0.1-0.5 0.1-0.5 0.1-0.5	.17 .20 .20 .24	.17 .20 .20 .24	5	2	134
Devol-----	0-14 14-29 29-45 45-65 65-80	70-90 43-90 43-90 43-100 43-100	0-30 0-50 0-50 0-50 0-50	2-8 8-18 2-18 2-10 2-10	1.45-1.70 1.40-1.70 1.40-1.70 1.50-1.75 1.50-1.75	6-20 2-6 2-20 2-20 2-20	0.06-0.10 0.07-0.15 0.07-0.15 0.05-0.12 0.05-0.12	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.2-1.0 0.0-0.5 0.0-0.5 0.0-0.2 0.0-0.2	.17 .20 .20 .20 .17	.17 .20 .20 .20 .17	5	2	134
SpIA: Spur-----	0-11 11-43 43-75 75-90	23-53 20-80 20-85 20-85	27-50 0-53 0-53 0-53	8-20 20-35 10-35 10-35	1.30-1.55 1.30-1.70 1.30-1.70 1.30-1.70	0.6-2 0.6-2 0.6-6 0.6-6	0.14-0.20 0.14-0.20 0.11-0.20 0.11-0.20	0.0-2.9 1.0-5.9 0.0-5.0 0.0-5.0	1.0-3.0 0.5-1.0 0.5-1.0 0.5-1.0	.37 .32 .32 .32	.37 .32 .32 .32	5	5	56

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
SuwA: Spur-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-14	20-45	20-53	27-35	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	14-30	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	30-51	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	51-80	20-85	0-53	15-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
SuwA: Spur-----	0-10	20-45	20-53	27-35	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	10-16	20-53	20-53	20-35	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37			
	16-48	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	48-80	20-85	0-53	15-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
SuwA: Spur-----	0-8	20-45	20-53	27-35	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-17	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	17-35	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	35-49	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
	49-80	20-85	0-53	15-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.32			
TARD: Talpa-----	0-7	23-53	27-50	20-27	1.30-1.55	0.6-2	0.13-0.19	0.0-2.9	1.0-3.0	.32	.37	1	4L	86
	7-40	---	---	---	1.85-2.35	0.0000-0.06	---	---	---	---	---			
Aspermont-----	0-10	0-32	50-82	18-27	1.25-1.55	0.6-2	0.15-0.24	1.0-5.9	0.5-2.0	.37	.37	4	4L	86
	10-42	0-53	20-82	20-35	1.30-1.70	0.2-2	0.12-0.22	3.0-5.9	0.0-0.5	.37	.37			
	42-80	0-53	15-73	27-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
Rock outcrop-----	0-60	---	---	---	1.85-2.35	0.0000-0.06	---	---	---	---	---	---	---	---
TillA: Tillman-----	0-8	20-45	15-53	27-35	1.30-1.55	0.2-0.6	0.15-0.20	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	8-15	0-45	0-65	35-50	1.30-1.65	0.06-0.2	0.12-0.20	6.0-8.9	1.0-2.0	.37	.37			
	15-45	0-45	0-65	35-50	1.30-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.37	.37			
	45-62	0-45	0-65	35-50	1.30-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.37	.37			
	62-78	0-45	0-65	35-60	1.30-1.70	0.0015-0.2	0.02-0.09	6.0-8.9	0.1-0.5	.37	.37			
	78-90	0-45	0-60	40-60	1.30-1.75	0.0015-0.2	0.02-0.09	6.0-8.9	0.0-0.3	.37	.37			
	90-100	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
TillB: Tillman-----	0-6	20-45	15-53	27-35	1.30-1.55	0.2-0.6	0.15-0.20	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	6-10	0-43	0-65	35-50	1.30-1.65	0.06-0.2	0.12-0.20	6.0-8.9	1.0-2.0	.37	.37			
	10-25	0-45	0-65	35-50	1.30-1.70	0.06-0.2	0.12-0.20	6.0-8.9	0.1-0.5	.37	.37			
	25-48	0-45	0-65	35-50	1.30-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.37	.37			
	48-60	0-45	0-65	35-50	1.30-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.37	.37			
	60-82	0-45	0-65	35-60	1.30-1.70	0.06-0.2	0.02-0.09	6.0-8.9	0.1-0.5	.37	.37			
	82-90	0-45	0-60	40-60	1.30-1.75	0.0015-0.2	0.02-0.09	6.0-8.9	0.0-0.3	.37	.37			
	90-100	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			

# Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility index
										Kw	Kf	T	
TipA: Tipton-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				
	0-8	23-53	27-50	15-25	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	56
	8-15	23-53	27-50	15-25	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37		
	15-25	20-80	0-53	20-35	1.30-1.70	0.6-2	0.15-0.20	0.0-2.9	1.0-2.0	.32	.32		
	25-41	20-80	0-53	20-35	1.30-1.70	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.32	.32		
	41-66	20-80	0-53	15-35	1.30-1.70	0.6-2	0.15-0.20	0.0-2.9	0.2-0.8	.32	.32		
	66-80	20-85	0-53	10-35	1.30-1.70	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.32	.32		
TlvB: Tilvern-----	0-5	20-45	15-45	35-40	1.30-1.55	0.2-0.6	0.12-0.18	3.0-5.9	0.5-2.0	.43	.43	4	86
	5-11	0-45	0-60	35-55	1.30-1.65	0.06-0.2	0.10-0.18	6.0-8.9	0.5-1.0	.37	.37		
	11-31	0-45	0-60	40-55	1.30-1.65	0.0015-0.06	0.10-0.15	6.0-8.9	0.0-0.5	.37	.37		
	31-44	0-45	0-60	35-55	1.30-1.70	0.0015-0.2	0.10-0.15	6.0-8.9	0.0-0.5	.37	.37		
	44-51	0-45	0-60	35-55	1.30-1.70	0.0015-0.2	0.10-0.15	6.0-8.9	0.0-0.5	.37	.37		
	51-80	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
TpFA: Tipton-----	0-7	43-85	0-50	10-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	1.0-2.0	.24	.24	5	86
	7-13	43-85	0-50	10-18	1.40-1.65	2-6	0.11-0.15	0.0-2.9	1.0-2.0	.24	.24		
	13-24	23-80	0-50	15-25	1.30-1.60	0.6-2	0.15-0.20	0.0-2.9	1.0-2.0	.37	.37		
	24-47	20-80	0-53	20-35	1.30-1.70	0.6-2	0.15-0.20	0.0-2.9	0.5-1.5	.32	.32		
	47-63	20-80	0-53	20-35	1.30-1.70	0.6-2	0.14-0.20	0.0-2.9	0.2-1.0	.32	.32		
	63-80	20-85	0-53	10-35	1.35-1.70	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.32	.32		
TrWB: Treadway-----	0-13	0-20	40-70	30-40	1.40-1.60	0.06-0.2	0.06-0.15	0.0-2.9	0.2-1.2	.43	.43	5	86
	13-24	0-40	20-65	35-60	1.35-1.70	0.0015-0.06	0.05-0.15	3.0-7.0	0.1-0.8	.37	.37		
	24-80	0-40	20-65	35-60	1.35-1.70	0.0015-0.06	0.05-0.15	3.0-7.0	0.0-0.5	.37	.37		
VeKE: Vernon-----	0-6	20-45	15-45	35-40	1.30-1.55	0.06-0.2	0.12-0.18	6.0-8.9	0.5-1.5	.43	.43	3	86
	6-26	0-45	0-60	40-60	1.35-1.60	0.0015-0.06	0.10-0.15	6.0-8.9	0.1-1.0	.37	.37		
	26-80	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
Knoco-----	0-6	0-20	40-60	40-60	1.35-1.55	0.0015-0.06	0.10-0.15	1.0-4.0	0.5-1.0	.32	.37	1	86
	6-16	0-45	0-60	40-60	1.45-1.70	0.0015-0.06	0.03-0.10	1.0-4.0	0.0-0.5	.32	.32		
	16-60	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
VerC: Vernon-----	0-6	20-45	15-45	35-40	1.30-1.55	0.06-0.2	0.12-0.18	6.0-8.9	0.5-1.5	.43	.43	3	86
	6-26	0-45	0-60	40-60	1.35-1.60	0.0015-0.06	0.10-0.15	6.0-8.9	0.1-1.0	.37	.37		
	26-35	0-45	0-60	40-60	1.35-1.60	0.0015-0.06	0.10-0.15	6.0-8.9	0.0-0.8	.37	.37		
	35-80	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		

Soil Survey of Greer County, Oklahoma

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility index
										Kw	Kf	T	
VeTE: Vernon-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct				
	0-7	20-45	15-45	35-40	1.30-1.55	0.06-0.2	0.12-0.18	6.0-8.9	0.5-1.5	.43	.43	3	86
	7-16	0-45	0-60	40-60	1.35-1.60	0.0015-0.06	0.10-0.15	6.0-8.9	0.1-1.0	.37	.37		
	16-25	0-45	0-60	40-60	1.35-1.60	0.0015-0.06	0.10-0.15	6.0-8.9	0.1-1.0	.37	.37		
	25-38	0-45	0-60	40-60	1.35-1.75	0.0015-0.06	0.06-0.10	6.0-8.9	0.0-0.5	.37	.37		
Talpa, stony-----	38-80	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32		
	0-9	23-53	27-50	20-27	1.30-1.55	0.6-2	0.13-0.19	0.0-2.9	1.0-3.0	.32	.37	1	86
	9-40	---	---	---	1.85-2.35	0.0000-0.06	---	---	---	---	---		
	0-80	---	---	---	---	---	---	---	---	---	---		
W: Water-----													
WlWB: Willow-----	0-7	20-50	30-62	18-27	1.25-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	4	48
	7-31	15-45	30-60	25-38	1.30-1.70	0.2-2	0.15-0.20	3.0-5.9	0.5-2.0	.32	.32		
	31-39	20-50	30-62	18-30	1.30-1.70	0.6-2	0.10-0.18	0.0-2.9	0.2-0.8	.37	.37		
	39-54	30-65	15-65	10-20	1.30-1.70	0.6-6	0.07-0.18	0.0-2.9	0.1-0.5	.37	.37		
	54-80	10-80	10-80	5-20	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37		
WOOB: Woodward-----	0-15	32-53	30-50	10-18	1.30-1.60	0.6-2	0.13-0.20	0.0-2.9	0.5-2.0	.37	.37	3	56
	15-32	10-80	10-80	10-18	1.40-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37		
	32-38	10-80	10-80	10-18	1.40-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37		
	38-80	10-80	10-80	5-18	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37		
WOOC: Woodward-----	0-7	32-53	30-50	10-18	1.30-1.60	0.6-2	0.13-0.20	0.0-2.9	0.5-2.0	.37	.37	3	56
	7-19	10-80	10-80	10-18	1.40-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37		
	19-28	10-80	10-80	10-18	1.40-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37		
	28-80	10-80	10-80	5-18	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37		
WOQE: Woodward-----	0-9	32-53	30-50	10-18	1.30-1.55	0.6-2	0.13-0.20	0.0-2.9	0.5-2.0	.37	.37	3	56
	9-21	10-80	10-80	10-18	1.30-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37		
	21-26	10-80	10-80	10-18	1.40-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.37	.37		
	26-80	10-80	10-80	5-18	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37		
Quinlan-----	0-4	30-53	27-50	10-20	1.30-1.55	0.6-2	0.13-0.20	0.0-2.9	0.5-1.0	.37	.37	2	56
	4-12	10-80	10-80	10-27	1.30-1.70	0.6-6	0.07-0.22	0.0-2.9	0.2-1.0	.37	.37		
	12-40	10-80	10-80	5-27	1.70-2.25	0.2-0.6	0.01-0.03	0.0-2.9	0.0-0.3	.37	.37		
Wsla: Westola-----	0-12	43-85	0-50	10-18	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.20	5	86
	12-50	32-85	0-50	5-18	1.30-1.70	2-6	0.10-0.20	0.0-2.9	0.0-0.5	.32	.32		
	50-80	32-100	0-50	5-18	1.30-1.70	2-6	0.07-0.20	0.0-2.9	0.0-0.5	.32	.32		

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
Wsta: Westola-----	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
	0-8	43-85	0-50	10-18	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	8-19	32-52	27-50	10-18	1.35-1.60	0.6-2	0.13-0.19	0.0-2.9	0.5-1.0	.32	.32			
	19-30	32-85	0-50	5-18	1.30-1.70	2-6	0.10-0.20	0.0-2.9	0.0-0.5	.28	.28			
	30-80	32-100	0-50	5-18	1.30-1.70	2-6	0.10-0.20	0.0-2.9	0.0-0.5	.28	.28			
Wt1A: Westill-----	0-5	20-45	15-53	27-35	1.30-1.55	0.2-0.6	0.15-0.20	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	5-15	0-45	0-65	35-50	1.30-1.65	0.0015-0.06	0.12-0.20	6.0-8.9	1.0-2.0	.37	.37			
	15-24	0-45	0-65	35-50	1.30-1.65	0.0015-0.06	0.12-0.20	6.0-8.9	0.2-1.0	.37	.37			
	24-55	0-45	0-65	35-60	1.30-1.70	0.0015-0.06	0.10-0.15	6.0-8.9	0.1-0.5	.37	.37			
	55-70	0-45	0-60	40-60	1.30-1.75	0.0000-0.06	0.02-0.15	6.0-8.9	0.0-0.3	.37	.37			
Wt1B: Westill-----	70-80	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			
	0-9	20-45	15-53	27-35	1.30-1.55	0.2-0.6	0.15-0.20	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	9-16	0-45	0-65	35-50	1.30-1.65	0.0015-0.06	0.12-0.20	6.0-8.9	1.0-2.0	.37	.37			
	16-47	0-45	0-65	35-60	1.30-1.70	0.0015-0.06	0.10-0.15	6.0-8.9	0.1-0.5	.37	.37			
	47-56	0-45	0-65	35-60	1.30-1.70	0.0015-0.06	0.02-0.15	6.0-8.9	0.1-0.5	.37	.37			
	56-68	0-45	0-60	40-60	1.30-1.75	0.0000-0.06	0.02-0.15	6.0-8.9	0.0-0.3	.37	.37			
	68-80	0-45	0-60	40-60	1.70-2.25	0.0000-0.06	0.01-0.03	1.0-4.0	0.0-0.3	.32	.32			



## Physical Analyses of Selected Soils

The results of physical analysis of several typical pedons in the survey area are shown in the table, "Physical Analyses of Selected Soils." The data are for soils sampled at carefully selected sites. The pedons are representative of the series described in this survey. Soil samples were analyzed by the National Soil Survey Laboratory, Lincoln, Nebraska.

Most determinations, except those for grain-size analysis and bulk density, were made on soil material smaller than 2 millimeters in diameter. Measurements reported as percent or quantity of unit weight were calculated on an oven-dry basis. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods (6).

*Clay*—(fraction less than 0.002 millimeter) pipette extraction, weight percentages of all material less than 2 millimeters (3A1).

*Silt*—(0.002 to 0.05 millimeter fraction) pipette extraction, weight percentages of all material less than 2 millimeters (3A1).

*Sand*—(0.05 to 2.0 millimeters fraction) weight percentages of material less than 2 millimeters (3A1).

*Bulk density*—of less than 2 millimeters material, saran-coated clods field moist (4A1a), 1/3 bar (4A1d), oven-dry (4A1h).

*Water-retention difference*—between 1/3 bar and 15 bars for whole soil (4C1).

*Water retained*—pressure extraction, percentage of oven-dry weight of less than 2 millimeters material; 1/3 bar or 1/10 bar (4B1), 15 bars (4B2).

*Linear extensibility*—change in clod dimension based on whole soil (4D).

# Soil Survey of Greer County, Oklahoma

## Physical Analyses of Selected Soils

(TR means trace. BDL means below detection limits. Dashes indicate that analyses were not made.)

Soil name and sample number*	Horizon	Depth	Particle-size distribution										Bulk density		Water retention		Water content		COLE	
			Clay less than 0.002			Silt			Sand				Very coarse (2.0-1.0mm)	1/3 bar dry	Oven-dry	1/3 bar	15 bar			
			Total (0.002-0.05mm)	Fine (0.002-0.02mm)	Coarse (0.02-0.05mm)	Total Sand (0.05-2.0mm)	Very fine (0.05-0.10mm)	Fine (0.10-0.25mm)	Medium (0.25-0.50mm)	Coarse (0.5-1mm)										
											Percent									
In																				
Beckman (1) S000K-009-001	A	0-4	71.7	27.4	23.6	3.8	0.9	0.4	0.1	0.1	0.1	0.2	1.41	1.77	0.05	29.3	25.5	0.079		
	Bw	4-14	50.3	47.2	29.4	17.8	2.5	2.3	0.1	0.1	0.1	BDL	1.58	1.77	0.04	21.3	18.7	0.039		
	Bkyl1	14-24	42.4	50.0	24.4	25.6	7.6	6.5	0.4	0.3	0.3	0.1	1.48	1.70	0.12	24.7	16.5	0.047		
	Bkyl2	24-41	32.6	56.4	18.0	38.4	11.0	10.0	0.4	0.3	0.2	0.1	1.60	1.68	0.10	18.1	12.0	0.016		
	Cyl1	41-51	32.1	47.5	14.1	33.4	20.4	19.9	0.4	0.1	TR	BDL	1.65	1.75	0.05	15.9	13.0	0.020		
	Cyl2	51-63	41.8	41.6	19.3	22.3	16.6	13.0	2.3	0.8	0.3	0.2	1.76	1.92	0.06	18.2	14.8	0.029		
	Cyl3	63-72	47.4	39.3	24.5	14.8	13.3	9.2	1.5	0.2	0.9	1.5	---	---	---	---	17.2	---		
	2Cr	72-80	61.5	36.6	29.3	7.3	1.9	TR	1.4	0.3	0.2	TR	---	---	---	---	21.8	---		
	Burford (2) S010K-055-002	Ap	0-4	23.1	47.9	11.5	36.4	29.0	21.5	4.3	2.5	0.4	0.3	1.52	1.66	0.17	20.1	8.7	0.029	
		Apd	0-7	23.4	45.2	12.5	32.7	31.4	23.8	4.1	2.1	0.6	0.8	1.56	1.72	0.16	19.3	8.8	0.033	
Bw1		7-12	34.1	47.1	15.2	31.9	18.8	15.6	2.1	1.0	0.1	TR	1.43	1.66	0.15	22.6	12.0	0.050		
Bw2		12-18	38.0	44.9	16.7	28.2	17.1	12.8	2.6	1.1	0.4	0.2	1.47	1.70	0.13	22.2	13.5	0.049		
2Bk1		18-28	28.4	60.3	29.3	31.0	11.3	6.4	2.3	1.7	0.7	0.2	1.55	1.74	0.10	17.9	10.7	0.035		
2Bk2		28-42	24.6	68.4	27.8	40.6	7.0	3.6	1.6	1.1	0.5	0.2	1.57	1.68	0.13	18.0	9.4	0.022		
2C/Bk		42-54	35.5	59.9	28.5	31.4	4.6	3.5	0.5	0.4	0.2	TR	1.68	1.85	0.10	18.3	12.5	0.032		
2Cd1		54-61	67.8	30.0	24.6	5.4	2.2	1.4	0.4	0.2	0.1	0.1	1.60	1.90	0.05	23.2	20.2	0.057		
2Cd2		61-71	58.7	37.3	29.2	8.1	4.0	2.7	0.6	0.5	0.2	BDL	1.66	1.89	0.05	21.8	18.6	0.043		
Eda S020K-055-003		E	0-10	3.4	6.7	1.3	5.4	89.9	11.9	45.5	29.9	2.6	TR	1.60	1.63	0.12	9.9	9.3	0.006	
	A	10-18	3.6	2.9	0.4	2.5	93.5	11.5	49.5	30.1	2.4	TR	1.69	1.70	0.07	5.7	5.3	0.002		
	E/Bt1	18-31	5.9	1.8	0.2	1.6	92.3	7.0	57.2	27.4	0.7	BDL	1.63	1.66	0.19	20.1	14.0	0.006		
	E/Bt1	31-47	5.3	1.9	0.2	1.7	92.8	15.8	59.3	17.4	0.3	BDL	1.58	1.75	0.29	23.2	20.0	0.035		
	E/Bt2	47-59	3.7	1.0	BDL	1.0	95.3	5.9	39.4	46.9	3.0	0.1	1.65	1.68	0.11	12.9	8.1	0.006		
	C	59-203	5.2	3.5	1.1	2.4	91.3	20.5	57.4	12.9	0.5	BDL	1.49	1.54	0.23	22.4	17.5	0.011		
	Gotebo S000K-055-002	Ap	0-8	20.0	42.2	8.3	33.9	37.8	35.1	1.8	0.8	0.1	TR	---	---	---	---	7.7	---	
		Bw	8-17	20.1	40.9	7.4	33.5	39.0	38.1	0.6	0.2	0.1	TR	1.40	1.49	0.13	17.4	7.8	0.021	
		B/Ck	17-26	13.0	44.6	7.1	37.5	42.4	39.9	1.5	0.5	0.4	0.1	1.57	1.62	0.13	14.4	6.0	0.010	
		Cr1	26-52	10.3	25.9	6.1	19.8	63.8	56.1	6.0	1.3	0.2	0.2	---	---	---	---	5.1	---	
Cr2		52-67	22.2	67.1	31.3	35.8	10.7	8.0	1.5	0.7	0.4	0.1	---	---	---	---	10.7	---		
Grandmore (3) S020K-055-002	Ap1	0-4	2.5	5.2	1.2	4.0	92.3	7.2	42.8	39.5	2.7	0.1	1.70	1.72	0.07	5.5	5.8	0.004		
	Ap2	4-13	2.4	3.1	0.1	3.0	94.5	7.3	44.7	39.5	3.0	BDL	1.69	1.72	0.05	4.1	1.4	0.006		
	Ap/Bt	13-19	2.7	2.9	0.4	2.5	94.4	4.2	37.2	49.5	3.5	TR	1.49	1.58	0.15	11.9	1.1	0.020		
	Ap/Bt	13-19	5.5	7.6	1.3	6.3	86.9	14.1	41.9	29.7	1.2	BDL	1.47	1.56	0.11	12.1	2.0	0.020		
	Bt1	19-26	10.9	11.3	2.0	9.3	77.8	13.8	39.1	23.7	1.2	BDL	1.53	1.65	0.14	15.9	4.6	0.025		
	Bt2	26-33	17.5	16.3	4.2	12.1	66.2	15.5	29.6	19.5	1.6	BDL	1.62	1.76	0.12	15.1	7.0	0.028		
	Bt3	33-42	19.6	18.1	5.7	12.4	62.3	13.4	29.2	18.2	1.5	BDL	1.69	1.93	0.15	16.2	7.7	0.045		
	Bt4	42-52	18.1	17.2	5.5	11.7	64.7	12.6	26.7	22.1	3.2	0.1	---	---	---	---	7.2	---		
	2Btg	52-69	32.2	33.0	16.0	17.0	34.8	6.3	16.8	11.1	0.6	BDL	1.79	1.86	0.05	11.6	13.5	0.013		
	2BCg	69-78	8.4	11.4	4.1	7.3	80.2	10.3	42.1	26.7	1.1	TR	---	---	---	---	8.6	---		
2C	78-89	8.8	20.0	4.8	15.2	71.2	9.6	37.1	23.5	1.0	TR	---	---	---	---	3.8	---			

Soil Survey of Greer County, Oklahoma

Physical Analyses of Selected Soils--Continued

Soil name and sample number*	Horizon	Depth	Particle-size distribution										Bulk density		Water retention		Water content		COLE
			Silt					Sand					1/3 bar	Oven-dry	1/3 bar	15 bar	Percent--		
			Total Silt (0.002-0.05mm)	Fine (0.002-0.02mm)	Coarse (0.02-0.05mm)	Total Sand (0.05-2.0mm)	Very fine (0.05-0.10mm)	Fine (0.10-0.25mm)	Medium (0.25-0.50mm)	Coarse (0.5-1mm)	Very coarse (2.0-1.0mm)								
In			Percent--										g/cm3 (cm/cm)		--Percent--				
Hayfork S00OK-055-006	A1	0-4	24.3	56.9	20.4	36.5	18.8	16.8	1.3	0.6	0.1	TR	---	---	---	---	9.5	---	
	A2	4-11	54.6	36.3	16.1	20.2	9.1	8.3	0.6	0.2	TR	TR	---	---	---	---	17.8	---	
	Bk	11-27	56.4	35.9	20.3	15.6	7.7	6.2	0.8	0.4	0.2	0.1	---	---	---	---	16.9	---	
	Bky1	27-41	52.4	41.1	22.9	18.2	6.5	5.3	0.6	0.4	0.2	TR	---	---	---	---	15.8	---	
	Bky2	41-50	39.1	48.7	21.5	27.2	12.2	9.8	1.4	0.6	0.3	0.1	---	---	---	---	13.0	---	
	Cy	50-60	41.9	47.8	20.2	27.6	10.3	8.6	0.8	0.6	0.3	TR	---	---	---	---	14.1	---	
	Lawton (4) S01OK-055-006	Ap	0-6	21.8	57.5	15.3	42.2	20.7	13.4	3.2	2.1	1.2	0.8	1.47	1.58	0.22	23.0	7.9	0.024
BAd		6-9	35.8	49.1	17.5	31.6	15.1	9.9	2.1	1.7	1.0	0.4	1.42	1.71	0.16	25.2	13.7	0.063	
Bt1		9-22	41.0	44.1	18.0	26.1	14.9	8.0	2.1	1.7	1.7	1.4	1.46	1.76	0.11	24.2	16.3	0.063	
Bt2		22-34	39.8	45.5	20.4	25.1	14.7	8.7	2.1	1.7	1.3	0.9	1.50	1.77	0.10	23.2	16.3	0.055	
2Bt1		34-42	34.5	42.4	15.4	27.0	23.1	8.2	3.0	2.4	3.0	6.5	1.41	1.62	0.08	23.4	15.0	0.032	
2Bt2		42-57	34.8	37.9	13.3	24.6	27.3	9.5	3.3	4.2	5.6	4.7	1.49	1.69	0.10	22.3	14.7	0.038	
2Bt3		57-70	45.4	37.5	15.1	22.4	17.1	9.7	2.2	2.2	2.1	0.9	1.54	1.88	0.09	25.0	18.7	0.067	
Duke (5) Sampled as Mangum S02OK-055-004	2Bt4	70-83	53.0	28.1	10.5	17.6	18.9	7.0	2.9	3.3	4.0	1.7	1.54	1.88	0.06	24.8	20.5	0.063	
	2Bt5	83-91	44.4	20.7	8.9	11.8	34.9	4.2	4.1	7.7	9.7	9.2	1.65	1.81	0.01	16.9	15.9	0.022	
	3Bt	91-102	39.7	40.3	17.7	22.6	20.0	12.0	5.1	1.5	1.0	0.4	1.48	1.70	0.07	24.3	19.3	0.045	
	Ap	0-5	41.7	46.3	20.1	26.2	12.0	8.4	1.5	0.5	0.6	1.0	---	---	---	---	11.9	---	
	Bkss	5-14	48.2	41.4	23.4	18.0	10.4	1.1	5.6	1.6	1.1	1.0	1.68	1.99	0.09	19.1	13.8	0.057	
	Bss	14-32	52.8	41.3	24.6	16.7	5.9	3.6	1.0	0.6	0.4	0.3	1.60	1.93	0.10	22.1	15.8	0.064	
	Bssyz1	32-48	56.9	38.6	23.8	14.8	4.5	2.8	0.7	0.5	0.3	0.2	1.55	1.89	0.11	24.2	16.9	0.067	
Nobscot S00OK-055-005	Bssyz2	48-56	61.5	33.2	22.7	10.5	5.3	2.2	1.7	1.1	0.3	BDL	1.45	1.81	0.16	28.4	17.1	0.077	
	Bssyz3	56-80	69.3	26.8	16.1	10.7	3.9	2.8	0.7	0.4	TR	BDL	1.35	1.76	0.14	31.7	21.7	0.092	
	A	0-10	1.5	10.7	2.0	8.7	87.8	13.0	37.6	33.2	3.9	0.1	---	---	---	---	1.6	---	
	E1	10-24	1.6	5.0	0.8	4.2	93.4	10.5	42.5	37.3	3.1	TR	1.74	1.75	0.03	2.5	0.9	0.002	
	E2	24-32	3.5	3.2	0.6	2.6	93.3	9.7	39.4	40.8	3.4	BDL	---	---	---	---	1.3	---	
	Bt1	32-38	12.6	3.1	0.8	2.3	84.3	6.0	38.7	37.2	2.4	TR	1.68	1.76	0.07	9.6	5.7	0.016	
	Bt2	38-51	13.5	3.4	0.2	3.2	83.1	8.4	44.7	27.0	3.0	TR	1.71	1.81	0.09	10.9	5.6	0.019	
Roark S01OK-055-005	Bt3	51-62	13.0	6.4	0.8	5.6	80.6	13.1	42.2	23.0	2.3	BDL	1.73	1.81	0.09	10.8	5.5	0.015	
	Bt4	62-80	9.1	10.3	1.4	9.0	80.6	16.4	42.0	20.9	1.3	TR	1.64	1.70	0.06	8.3	4.4	0.012	
	Apd	0-8	19.8	61.0	23.6	37.4	19.2	8.1	4.8	5.1	1.1	0.1	1.43	1.53	0.20	21.8	7.8	0.023	
	BAd	8-16	29.2	46.3	17.6	28.7	24.5	9.9	6.4	6.6	1.4	0.2	1.57	1.73	0.14	20.3	11.6	0.033	
	Bt1	16-27	39.9	39.6	17.2	22.4	20.5	8.4	5.7	5.2	1.1	0.1	1.42	1.78	0.16	27.2	15.7	0.078	
	Bt2	27-39	40.4	43.1	20.8	22.3	16.5	7.2	4.5	3.7	1.0	0.1	1.46	1.85	0.14	26.2	16.5	0.082	
	Btk1	39-57	41.7	45.9	24.7	21.2	12.4	5.3	3.3	2.6	0.5	0.7	1.40	1.78	0.15	28.1	17.5	0.083	
Springer (6) Sampled as Devol S00OK-055-004	Btk2	57-74	43.9	45.8	26.7	19.1	10.3	4.6	2.7	2.5	0.4	0.1	1.35	1.69	0.17	30.5	18.1	0.077	
	2BCKg	74-89	37.1	34.6	16.7	17.9	28.3	10.5	8.5	7.2	1.7	0.4	1.46	1.78	0.16	27.0	15.9	0.068	
	2BCg	89-99	34.2	29.6	10.6	19.0	36.2	14.8	11.6	8.1	1.7	TR	1.57	1.88	0.14	22.3	13.7	0.062	
	Ap1	0-7	2.6	3.1	0.6	2.6	94.3	11.9	45.2	35.5	1.7	TR	1.67	1.74	0.06	5.0	1.3	0.014	
	Ap2	7-13	2.7	4.5	0.9	3.6	92.8	12.4	48.5	29.9	2.0	BDL	1.70	1.72	0.11	7.9	1.4	0.004	
	Bt1	13-22	10.6	4.9	1.5	3.4	84.5	9.3	41.6	31.8	1.8	TR	1.64	1.72	0.13	12.2	4.3	0.016	
	Bt2	22-30	8.8	4.9	1.8	3.1	86.3	10.2	43.4	31.7	1.0	BDL	1.58	1.64	0.09	9.2	3.8	0.013	
2BA	Bt3	30-42	6.9	4.9	1.9	3.0	88.2	9.6	45.7	31.4	1.5	TR	---	---	---	---	3.1	---	
	BC	42-57	6.3	3.8	1.3	2.5	89.9	10.9	46.5	30.7	1.8	BDL	1.61	1.62	0.05	5.5	2.5	0.002	
	2BA	57-67	13.3	9.7	3.1	6.6	77.0	14.3	31.9	27.7	2.9	0.2	1.67	1.76	0.13	13.1	5.4	0.018	
	2Bt	67-80	19.3	24.4	6.1	18.3	56.3	14.6	21.5	19.0	1.2	BDL	1.75	1.83	0.08	13.0	8.5	0.015	

[illegible]

- (1) This pedon was sampled in Beckham County, OK, and was originally correlated to mapping unit 6 in the 1980 published soil survey of Beckham County.
- (2) This pedon has slightly more calcium carbonate content in the 2Bk1 horizon than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (3) This pedon has slightly less clay content in the textural control section than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (4) This pedon has a mollic epipedon more than 20 inches thick which is more than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (5) This pedon has slightly more gypsum content than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (6) This pedon has loamy sand throughout the argillic horizon and does not qualify for coarse loamy particle-size class and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (7) This pedon has a regular decrease in organic carbon and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (8) This pedon has slightly more clay content in the Bt1 horizon than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.

\* Location of sampled pedons is as follows:

Beckman (S000K-009-001), about 430 feet north and 675 feet east of the southwest corner of sec. 28, T. 8 N., R. 23 W.  
Burford (S010K-005-002), about 2,350 feet north and 1,490 feet west of the southeast corner of sec. 10, T. 6 N., R. 22 W.

\*Location of Sampled Pedons--Continued

Duke (S020K-055-004), about 350 feet south and 2,100 feet west of the northeast corner of sec. 16, T. 3 N., R. 22 W.  
 Eda (S020K-055-003), about 200 feet north and 500 feet east of the southwest corner of sec. 1, T. 7 N., R. 22 W.  
 Gorebo (S000K-055-002), about 1,970 feet south and 850 feet west of the northeast corner of sec. 17, T. 6 N., R. 22 W.  
 Grandmore (S020K-055-002), about 350 feet north and 1,600 feet west of the southeast corner of sec. 8, T. 7 N., R. 21 W.  
 Hayfork (S000K-055-006), about 60 feet north and 1,340 feet east of the southwest corner of sec. 5, T. 7 N., R. 23 W.  
 Lawton (S010K-055-006), about 1,900 feet south and 300 feet east of the northwest corner of sec. 34, T. 6 N., R. 21 W.  
 Nobscot (S000K-055-005), about 380 feet north and 2,270 feet east of the southwest corner of sec. 18, T. 7 N., R. 21 W.  
 Roark (S010K-055-005), about 350 feet north and 900 feet west of the southeast corner of sec. 11, T. 5 N., R. 21 W.  
 Springer (S000K-055-004), about 760 feet south and 1,900 feet west of the northeast corner of sec. 3, T. 7 N., R. 22 W.  
 Spur (S020K-055-001), about 250 feet north and 1,300 feet east of the southwest corner of sec. 6, T. 5 N., R. 21 W.  
 Treadway (S000K-055-003), about 2,100 feet south and 400 feet east of the northwest corner of sec. 1, T. 7 N., R. 24 W.  
 Willow (S000K-055-001), about 600 feet south and 400 feet west of the northeast corner of sec. 17, T. 6 N., R. 22 W.

## Chemical Soil Properties

The table, "Chemical Properties of the Soils," shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Gypsum* is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

*Salinity* is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter (mmhos/cm) or decisiemens per meter (dS/m) at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

*Sodium adsorption ratio* (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
AceB:							
Acme-----	0-12	11-16	7.4-8.4	1-10	0-3	0.0-4.0	0-4
	12-24	11-21	7.4-8.4	5-20	1-10	1.0-8.0	0-8
	24-44	6.5-21	7.4-8.4	2-20	20-80	1.0-8.0	0-10
	44-55	6.5-21	7.4-8.4	2-20	20-80	1.0-8.0	0-10
	55-80	6.5-21	7.4-8.4	1-15	3-50	1.0-8.0	0-10
ArHF:							
Arnett-----	0-15	7.0-13	6.1-7.8	0-1	0	0	0
	15-40	11-21	6.6-8.4	0-10	0	0	0
	40-58	11-21	6.6-8.4	0-10	0	0	0
	58-80	7.0-21	6.6-8.4	0-10	0	0	0
Hardeman-----	0-7	6.7-11	7.4-8.4	0-5	0	0.0-2.0	0
	7-40	7.8-11	7.4-8.4	1-10	0	0.0-2.0	0
	40-60	7.8-11	7.9-8.4	2-15	0	0.0-2.0	0
	60-80	3.8-11	7.9-8.4	2-15	0	0.0-2.0	0
ArnB:							
Arnett-----	0-7	7.0-13	6.1-7.8	0-1	0	0	0
	7-26	11-21	6.6-8.4	0-10	0	0	0
	26-46	7.0-21	6.6-8.4	0-10	0	0	0
	46-80	5.0-21	7.9-8.4	2-15	0	0	0
ArnC:							
Arnett-----	0-7	7.0-13	6.1-7.8	0-1	0	0	0
	7-17	11-21	6.6-8.4	0-10	0	0	0
	17-31	11-21	6.6-8.4	0-10	0	0	0
	31-44	7.0-21	6.6-8.4	0-10	0	0	0
	44-80	5.0-21	7.9-8.4	2-15	0	0	0
AsmB:							
Aspermont-----	0-6	11-22	7.9-8.4	2-10	0-1	0.0-2.0	0
	6-34	7.5-24	7.9-8.4	5-20	0-1	0.0-2.0	0
	34-43	7.5-24	7.9-8.4	15-40	0-2	0.0-2.0	0-2
	43-50	7.5-24	7.9-8.4	5-25	0-5	0.0-4.0	0-6
	50-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
AsmC:							
Aspermont-----	0-8	11-22	7.9-8.4	2-10	0-1	0.0-2.0	0
	8-35	7.5-24	7.9-8.4	5-20	0-1	0.0-2.0	0
	35-50	7.5-24	7.9-8.4	15-40	0-2	0.0-2.0	0-2
	50-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
BekA:							
Beckman-----	0-4	24-35	7.9-8.4	1-5	0-5	0.0-8.0	1-5
	4-14	21-35	7.9-8.4	1-5	0-2	0.0-8.0	1-5
	14-41	18-35	7.9-8.4	1-15	1-15	2.0-16.0	3-20
	41-80	18-35	7.9-8.4	1-15	1-15	4.0-20.0	3-20
BfdB:							
Burford-----	0-5	12-16	7.4-8.4	0-5	0	0	0
	5-12	12-22	7.9-8.4	2-15	0	0	0
	12-30	12-22	7.9-8.4	5-15	0	0	0
	30-43	16-30	7.9-8.4	5-15	0-2	0.0-2.0	0-6
	43-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
BfdC:							
Burford-----	0-6	12-16	7.4-8.4	0-5	0	0	0
	6-24	12-22	7.9-8.4	5-15	0	0	0
	24-40	16-30	7.9-8.4	5-15	0-2	0.0-2.0	0-6
	40-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
BfSC2:							
Burford, moderately eroded-----	0-6	12-16	7.4-8.4	0-10	0	0	0
	6-35	12-22	7.9-8.4	5-15	0	0	0
	35-40	12-22	7.9-8.4	5-15	0-2	0.0-2.0	0-6
	40-80	12-24	7.4-8.4	5-10	0-2	0.0-2.0	0-8
Spikebox, moderately eroded-----	0-7	5.5-12	7.4-8.4	0-15	0	0.0-2.0	0
	7-15	5.5-12	7.9-8.4	0-15	0-2	0.0-2.0	0
	15-40	---	---	---	---	---	---
BfSE:							
Burford-----	0-10	12-16	7.4-8.4	0-5	0	0	0
	10-29	12-22	7.9-8.4	2-15	0	0	0
	29-44	12-22	7.9-8.4	5-15	0	0	0
	44-57	16-30	7.9-8.4	5-15	0-2	0.0-2.0	0-6
	57-80	12-24	7.4-8.4	5-10	0-2	0.0-2.0	0-8
Spikebox-----	0-6	5.5-12	7.4-8.4	0-10	0	0.0-2.0	0
	6-14	5.5-12	7.9-8.4	0-15	0-2	0.0-2.0	0
	14-40	---	---	---	---	---	---
BriE:							
Brico-----	0-11	9.0-16	6.1-7.3	0	0	0	0
	11-24	21-35	6.1-7.3	0	0	0	0
	24-40	21-35	6.1-7.3	0	0	0	0
	40-72	16-21	6.1-7.3	0	0	0	0
BukA:							
Bukreek-----	0-11	11-16	6.6-7.8	0	0	0	0
	11-18	16-21	7.4-8.4	0-5	0	0	0
	18-30	16-21	7.4-8.4	0-15	0	0.0-2.0	0
	30-74	16-21	7.9-8.4	15-40	0	0.0-2.0	0
	74-80	9.5-18	7.9-8.4	5-15	0	0.0-2.0	0
CarB:							
Carey-----	0-15	6.5-16	6.6-7.8	0	0	0	0
	15-42	12-21	6.6-8.4	0-15	0	0.0-2.0	0
	42-65	5.0-16	7.9-8.4	5-15	0-1	0.0-2.0	0-2
	65-80	5.0-16	7.9-8.4	1-8	0-2	0.0-2.0	0-4
CawA:							
Carwile-----	0-15	3.8-11	5.6-7.3	0	0	0	0
	15-27	15-33	6.1-8.4	0	0	0	0
	27-57	12-33	6.1-8.4	0-5	0	0	0
	57-80	6.7-18	6.6-8.4	0-5	0	0	0
CVRD:							
Cottonwood-----	0-5	11-17	7.9-8.4	5-30	5-20	0.0-2.0	0-4
	5-8	11-17	7.9-8.4	5-30	40-90	0.0-2.0	0-4
	8-40	---	---	---	---	---	---



# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
Vinson-----	0-4	9.6-17	7.4-8.4	0-10	0-1	0.0-2.0	0
	4-15	11-18	7.9-8.4	2-10	2-10	0.0-2.0	0
	15-22	11-18	7.9-8.4	5-15	2-10	0.0-2.0	0
	22-28	---	---	---	---	---	---
	28-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
DAM:							
Dam-----	0-80	---	---	---	---	---	---
DeSD:							
Devol-----	0-8	2.0-5.5	5.6-7.8	0	0	0	0
	8-28	5.5-11	6.1-8.4	0	0	0	0
	28-47	2.0-11	6.1-8.4	0	0	0	0
	47-62	2.0-6.7	6.6-8.4	0-5	0	0	0
	62-80	2.0-6.7	6.6-8.4	0-5	0	0	0
Springer-----	0-15	2.0-8.0	5.6-7.8	0	0	0.0-1.0	0
	15-41	3.6-13	6.1-8.4	0	0	0.0-1.0	0
	41-52	1.5-8.4	6.6-8.4	0	0	0.0-1.0	0
	52-70	6.0-16	6.6-8.4	0-5	0	0.0-2.0	0
	70-80	1.5-7.8	6.6-8.4	0-5	0	0	0
DkuA:							
Duke-----	0-5	16-30	7.4-8.4	0-15	0-1	0.0-4.0	0-4
	5-12	14-36	7.4-8.4	1-15	0-5	0.0-8.0	1-15
	12-44	14-36	7.4-8.4	1-15	0-15	2.0-16.0	13-20
	44-80	6.0-36	7.4-8.4	1-15	2-15	2.0-16.0	4-20
DodA:							
Dodson-----	0-7	11-19	6.1-7.8	0	0	0	0
	7-37	18-32	6.6-7.8	0-2	0	0	0
	37-56	12-28	6.6-8.4	2-15	0-1	0.0-2.0	0
	56-72	8.3-23	7.9-8.4	2-15	0-1	0.0-2.0	0
	72-80	5.5-23	7.9-8.4	2-20	0-2	0.0-2.0	0
DodB:							
Dodson-----	0-6	11-19	6.1-7.8	0	0	0	0
	6-26	18-32	6.6-7.8	0-1	0	0	0
	26-56	12-28	6.6-8.4	2-15	0-1	0.0-2.0	0
	56-83	8.3-23	7.9-8.4	2-20	0-1	0.0-2.0	0
	83-91	5.5-29	7.4-8.4	2-20	0-2	0.0-2.0	0
EatA:							
Eastall-----	0-12	35-50	6.6-8.4	0-2	0	0.0-2.0	0
	12-19	35-50	7.4-8.4	0-2	0	0.0-2.0	0
	19-56	35-50	7.4-8.4	0-5	0	0.0-2.0	0
	56-76	35-50	7.4-8.4	0-5	0	0.0-2.0	0
	76-95	25-50	7.9-8.4	2-15	0-2	0.0-2.0	0
EdsB:							
Eda-----	0-11	1.0-5.0	5.6-7.3	0	0	0	0
	11-35	1.0-6.0	5.6-7.3	0	0	0	0
	35-80	1.0-6.0	6.1-7.3	0-2	0	0	0

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
EdsD:							
Eda-----	0-13	1.0-5.0	5.6-7.3	0	0	0	0
	13-50	1.0-6.0	5.6-7.3	0	0	0	0
	50-80	1.0-6.0	6.1-7.3	0-2	0	0	0
EdsF:							
Eda-----	0-18	1.0-5.0	5.6-7.3	0	0	0	0
	18-40	1.0-6.0	5.6-7.3	0	0	0	0
	40-80	1.0-6.0	6.1-7.3	0-2	0	0	0
FraB:							
Frankirk-----	0-6	11-21	6.6-7.8	0	0	0.0-2.0	0
	6-18	21-27	6.6-8.4	0	0	0.0-2.0	0
	18-52	21-27	6.6-8.4	0-10	0	0.0-2.0	0
	52-65	12-18	7.9-8.4	5-20	0	0.0-2.0	0
	65-80	12-18	7.9-8.4	2-10	0	0.0-2.0	0
FryB:							
Farry-----	0-7	6.5-14	6.1-7.8	0	0	0	0
	7-11	11-20	6.6-8.4	0	0	0	0
	11-50	11-20	6.6-8.4	0-5	0	0	0
	50-63	6.5-16	6.6-8.4	0-5	0	0	0
	63-75	4.0-16	6.6-8.4	0-10	0	0	0
	75-84	2.5-15	6.6-8.4	0-10	0	0	0
GdfB:							
Grandfield-----	0-15	6.0-13	6.1-7.8	0	0	0	0
	15-32	9.6-18	6.1-7.8	0	0	0	0
	32-49	9.6-18	6.6-8.4	0	0	0	0
	49-56	6.7-15	6.6-8.4	0-5	0	0	0
	56-80	2.6-12	6.6-8.4	0-5	0	0	0
GlGB:							
Grandmore-----	0-18	2.6-6.7	6.1-7.8	0	0	0	0
	18-38	11-18	6.6-7.8	0	0	0	0
	38-46	9.0-18	6.6-8.4	0	0	0	0
	46-61	18-30	7.4-8.4	0-10	0	0	0
	61-80	5.0-30	7.9-8.4	0-15	0	0	0
Grandfield-----	0-8	2.6-6.7	6.1-7.8	0	0	0	0
	8-28	11-18	6.1-7.8	0	0	0	0
	28-55	7.8-18	6.6-8.4	0	0	0	0
	55-75	3.5-15	6.6-8.4	0-5	0	0	0
	75-80	2.6-12	6.6-8.4	0-5	0	0	0
GlsB:							
Grandfield-----	0-7	2.6-6.7	6.1-7.8	0	0	0	0
	7-21	11-18	6.1-7.8	0	0	0	0
	21-44	7.8-18	6.6-8.4	0	0	0	0
	44-72	3.5-15	6.6-8.4	0-5	0	0	0
	72-80	2.6-12	6.6-8.4	0-5	0	0	0
GlsD:							
Grandfield-----	0-13	2.6-6.7	6.1-7.8	0	0	0	0
	13-34	11-18	6.1-7.8	0	0	0	0
	34-47	7.8-18	6.6-8.4	0	0	0	0
	47-58	3.5-15	6.6-8.4	0-5	0	0	0
	58-80	2.6-12	6.6-8.4	0-5	0	0	0

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
GmuA:							
Gracemont, saline----	0-6	6.7-11	7.9-8.4	1-10	0-5	4.0-16.0	1-6
	6-20	6.7-11	7.9-8.4	1-10	0-5	4.0-16.0	1-6
	20-80	3.8-20	7.9-8.4	1-10	0-5	4.0-16.0	1-6
GmwA:							
Gracemont, saline----	0-4	6.7-11	7.9-8.4	1-10	0-5	4.0-16.0	1-6
	4-35	6.7-11	7.9-8.4	1-10	0-5	4.0-16.0	1-6
	35-80	3.8-20	7.9-8.4	1-10	0-5	4.0-16.0	1-6
GrrA:							
Gracemore, saline----	0-7	16-21	7.4-8.4	1-10	0-3	4.0-16.0	1-6
	7-17	2.0-6.7	7.9-8.4	1-10	0-3	4.0-16.0	1-6
	17-80	2.0-6.7	7.9-8.4	1-5	0-3	4.0-16.0	1-6
GtbB:							
Gotebo-----	0-8	6.0-11	6.6-8.4	0-5	0	0.0-2.0	0
	8-17	6.0-11	7.4-8.4	0-10	0	0.0-2.0	0
	17-26	6.0-11	7.9-9.0	2-10	0-2	0.0-2.0	0
	26-80	3.8-11	7.9-8.4	1-8	0-2	0.0-2.0	0-4
HdmB:							
Hardeman-----	0-6	4.8-12	7.4-8.4	0-5	0	0.0-2.0	0
	6-46	4.8-12	7.4-8.4	1-10	0	0.0-2.0	0
	46-80	4.8-12	7.9-8.4	2-15	0	0.0-2.0	0
HdmC:							
Hardeman-----	0-13	4.8-12	7.4-8.4	0-5	0	0.0-2.0	0
	13-35	4.8-12	7.4-8.4	1-10	0	0.0-2.0	0
	35-62	4.8-12	7.9-8.4	2-15	0	0.0-2.0	0
	62-80	3.0-12	7.9-8.4	2-15	0	0.0-2.0	0
HfkA:							
Hayfork-----	0-11	18-24	6.1-8.4	0-5	0	0.0-2.0	0-2
	11-27	20-27	7.4-8.4	2-15	0-1	0.0-4.0	0-3
	27-41	16-27	7.9-8.4	2-15	1-5	2.0-16.0	2-6
	41-50	16-27	7.9-8.4	2-15	1-5	2.0-16.0	2-6
	50-60	16-27	7.9-8.4	2-15	1-5	2.0-16.0	2-6
HksA:							
Headrick-----	0-5	2.6-6.7	6.1-7.8	0	0	0	0
	5-32	11-18	6.6-8.4	0-3	0	0	0
	32-66	18-27	6.6-8.4	0-15	0-5	0	0
	66-80	16-27	7.9-8.4	1-15	0-5	0.0-4.0	0-6
HolA:							
Hollister-----	0-9	15-30	6.6-8.4	0-2	0	0	0
	9-23	20-35	7.4-8.4	2-10	0-2	0.0-2.0	0
	23-72	20-35	7.4-8.4	2-10	0-2	0.0-4.0	1-8
	72-110	15-25	7.9-8.4	3-15	0-5	0.0-6.0	1-8
	110-138	15-25	7.9-8.4	3-15	0-5	0.0-6.0	1-8
HrAC:							
Harmon-----	0-7	5.0-15	7.9-8.4	40-65	0	0	0
	7-16	5.0-15	7.9-8.4	55-85	0	0	0
	16-40	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
Aspermont-----	0-5	11-22	7.9-8.4	2-10	0	0.0-2.0	0
	5-40	7.5-24	7.9-8.4	5-20	0	0.0-2.0	0
	40-50	7.5-24	7.9-8.4	15-30	0	0.0-2.0	0-2
	50-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
HSAF:							
Hardeman-----	0-14	6.7-11	6.6-8.4	0-5	0	0.0-2.0	0
	14-20	7.2-11	6.6-8.4	1-10	0	0.0-2.0	0
	20-46	7.2-11	7.4-8.4	2-15	0	0.0-2.0	0
	46-80	3.8-11	7.9-8.4	2-15	0	0.0-2.0	0
Southside-----	0-6	3.5-9.5	6.6-8.4	0-10	0	0.0-2.0	0
	6-28	1.0-6.5	7.9-8.4	2-10	0	0.0-2.0	0
	28-80	1.0-6.5	7.9-8.4	2-10	0	0.0-2.0	0
Arnett-----	0-5	7.0-13	6.1-7.8	0-1	0	0	0
	5-41	11-21	6.6-8.4	0-10	0	0	0
	41-70	7.0-21	7.4-8.4	0-10	0	0	0
	70-80	5.0-21	7.9-8.4	2-15	0	0	0
JesC:							
Jester-----	0-7	1.5-6.7	6.6-8.4	0-2	0	0	0
	7-45	1.5-6.7	7.4-8.4	1-5	0	0	0
	45-80	1.5-6.7	7.4-8.4	1-5	0	0	0
KcRG:							
Knoco, bouldery-----	0-3	12-24	7.4-8.4	1-8	0-15	1.0-4.0	0-8
	3-9	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
	9-60	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
Rock outcrop-----	0-60	---	---	---	---	---	---
KoBE:							
Knoco-----	0-6	12-24	7.4-8.4	1-8	0-15	1.0-4.0	0-8
	6-16	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
	16-60	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
Badland-----	0-60	---	---	1-15	0-15	1.0-8.0	0-8
KRCF:							
Knoco-----	0-3	12-24	7.4-8.4	1-8	0-15	1.0-4.0	0-8
	3-12	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
	12-60	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
Rock outcrop-----	0-60	---	---	---	---	---	---
Cottonwood-----	0-4	9.5-17	7.9-8.4	5-30	5-20	0.0-2.0	0-4
	4-40	---	---	---	---	---	---
LacB:							
La Casa-----	0-6	16-21	7.4-8.4	0-2	0-1	0.0-2.0	0
	6-12	20-30	7.4-8.4	0-5	0-2	0.0-2.0	0
	12-34	20-30	7.9-8.4	5-15	0-2	0.0-2.0	0
	34-64	18-30	7.9-8.4	10-40	0-2	0.0-2.0	0-2
	64-81	18-30	7.9-8.4	5-25	0-4	0.0-4.0	0-2
	81-91	18-30	7.4-8.4	2-10	0-8	2.0-8.0	0-6

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
LnuA:							
Lincoln-----	0-8	1.5-10	7.4-8.4	0-5	0	0	0
	8-21	1.5-10	7.9-8.4	0-5	0	0	0
	21-80	1.5-10	7.9-8.4	0-5	0	0	0
LnWA:							
Lincoln-----	0-5	1.5-10	7.4-8.4	0-5	0	0	0
	5-15	1.5-10	7.9-8.4	0-5	0	0	0
	15-80	1.5-10	7.9-8.4	0-5	0	0	0
Westola-----	0-5	7.0-11	7.4-8.4	1-5	0	0	0
	5-30	4.0-11	7.9-8.4	1-10	0	0	0
	30-80	4.0-11	7.9-8.4	1-10	0	0	0
LwtA:							
Lawton-----	0-6	11-16	6.1-7.3	0	0	0	0
	6-9	12-21	6.1-7.3	0	0	0	0
	9-34	21-24	6.1-8.4	0	0	0	0
	34-75	15-24	6.6-8.4	0-5	0-1	0.0-2.0	0-6
	75-80	12-21	6.6-8.4	0-10	0-2	0.0-2.0	0-6
LwtB:							
Lawton-----	0-6	11-16	6.1-7.3	0	0	0	0
	6-28	21-24	6.1-8.4	0	0	0	0
	28-56	21-24	6.1-8.4	0	0	0	0
	56-75	15-24	6.6-8.4	0-5	0-1	0.0-2.0	0-6
	75-80	12-21	6.6-8.4	0-10	0-2	0.0-2.0	0-6
LwtC2:							
Lawton, moderately eroded-----	0-5	11-16	6.1-7.3	0	0	0	0
	5-45	21-24	6.1-8.4	0	0	0	0
	45-62	15-24	6.6-8.4	0-5	0-1	0.0-2.0	0-6
	62-80	12-21	6.6-8.4	0-10	0-2	0.0-2.0	0-6
M-W:							
Water, Miscellaneous-	0-80	---	---	---	---	---	---
MagB:							
Madge-----	0-13	9.0-17	6.1-7.8	0	0	0	0
	13-25	11-21	6.6-8.4	0	0	0	0
	25-41	7.0-21	6.6-8.4	0-10	0	0	0
	41-57	4.0-16	6.6-8.4	0-10	0	0	0
	57-80	2.5-15	7.4-8.4	0-10	0	0	0
MdgB:							
Madge-----	0-5	5.0-11	6.1-7.8	0	0	0	0
	5-43	11-21	6.6-8.4	0	0	0	0
	43-49	7.0-21	6.6-8.4	0-10	0	0	0
	49-56	4.0-15	6.6-8.4	0-10	0	0	0
	56-80	2.5-15	7.4-8.4	0-10	0	0	0
MknB:							
Mcknight-----	0-7	6.0-11	5.6-8.4	0	0	0	0
	7-35	7.0-21	6.6-8.4	0-5	0	0	0
	35-53	14-35	7.9-8.4	0-15	0-2	0.0-2.0	0-4
	53-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
MktB:							
Mcknight-----	0-14	3.0-6.0	5.6-8.4	0	0	0	0
	14-29	7.0-21	6.6-8.4	0-5	0	0	0
	29-36	14-35	7.9-8.4	0-15	0	0	0
	36-52	14-35	7.9-8.4	2-15	0-2	0.0-2.0	0-4
	52-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
MktC2:							
Mcknight, moderately eroded-----	0-7	3.0-6.0	5.6-8.4	0	0	0	0
	7-35	7.0-21	6.6-8.4	0-5	0	0	0
	35-51	14-35	7.9-8.4	0-15	0-2	0.0-2.0	0-4
	51-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
NpsB:							
Nipsum-----	0-20	21-24	7.4-8.4	0-5	0-1	0.0-2.0	0-2
	20-27	21-33	7.9-8.4	1-10	0-1	0.0-2.0	0-2
	27-40	21-33	7.9-8.4	5-20	1-10	0.0-4.0	0-8
	40-62	17-33	7.9-8.4	5-20	2-15	0.0-8.0	0-12
	62-80	17-33	7.9-8.4	5-20	2-15	0.0-8.0	0-12
NstC:							
Nobscot-----	0-5	2.0-5.0	5.6-7.3	0	0	0	0
	5-23	2.0-6.0	5.6-7.3	0	0	0	0
	23-53	5.0-11	5.1-7.3	0	0	0	0
	53-71	2.0-11	5.1-7.3	0	0	0	0
	71-80	2.0-6.5	6.1-7.3	0	0	0	0
OakA:							
Oakley-----	0-12	10-15	7.4-8.4	2-10	0	0.0-2.0	0
	12-43	12-20	7.9-8.4	10-35	0	0.0-2.0	0
	43-58	12-20	7.9-9.0	10-35	0-2	0.0-4.0	0-8
	58-85	5.0-18	7.9-9.0	3-20	0-2	0.0-8.0	0-8
	85-95	5.0-18	7.9-9.0	3-15	0-2	0.0-8.0	0-8
	95-120	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
OakB:							
Oakley-----	0-7	10-15	7.4-8.4	2-10	0	0.0-2.0	0
	7-41	12-20	7.9-8.4	10-35	0	0.0-2.0	0
	41-49	12-20	7.9-9.0	10-35	0-2	0.0-4.0	0-8
	49-72	5.0-18	7.9-9.0	3-20	0-2	0.0-8.0	0-8
	72-95	5.0-18	7.9-9.0	3-15	0-2	0.0-8.0	0-8
	95-120	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
OzkA:							
Ozark-----	0-11	5.0-12	6.1-7.8	0	0	0	0
	11-24	11-21	6.6-7.8	0-5	0	0.0-2.0	0
	24-50	11-27	7.4-8.4	2-15	0-2	0.0-4.0	0-8
	50-59	11-27	7.4-8.4	2-15	0-5	0.0-4.0	0-12
	59-83	5.5-21	7.9-8.4	2-10	0-5	0.0-4.0	0-12
	83-105	18-30	7.9-8.4	2-10	0-5	0.0-4.0	0-12
	105-120	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
PIT:							
Pits-----	0-80	---	7.4-8.4	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
QhTC:							
Quannah-----	0-14	15-25	7.4-8.4	5-10	0	0.0-2.0	0
	14-22	15-25	7.9-8.4	5-15	0	0.0-2.0	0
	22-36	15-25	7.9-8.4	15-40	0	0.0-2.0	0
	36-82	15-25	7.9-8.4	15-40	0	0.0-2.0	0
Talpa-----	0-10	12-18	7.9-8.4	10-40	0	0	0
	10-20	---	---	---	---	---	---
QnRG:							
Quinlan-----	0-5	6.0-13	7.4-8.4	0-5	0	0	0
	5-11	6.0-18	7.4-8.4	2-15	0-2	0.0-2.0	0
	11-40	3.8-16	7.4-8.4	1-8	0-2	0.0-2.0	0-4
Rock outcrop-----	0-62	---	---	---	---	---	---
RakA:							
Roark-----	0-10	9.5-16	6.1-7.8	0	0	0.0-2.0	0
	10-24	21-27	7.4-8.4	0-5	0	0.0-2.0	0
	24-34	21-27	7.9-8.4	1-10	0	0.0-2.0	0
	34-49	21-27	7.9-8.4	1-10	0	0.0-4.0	0-6
	49-67	10-21	7.9-8.4	1-10	0-2	0.0-8.0	0-6
	67-80	4.0-21	7.9-8.4	1-5	0-4	0.0-8.0	0-6
RKBG:							
Rock outcrop, granite	0-60	---	---	---	---	---	---
Brico-----	0-10	9.0-16	6.1-7.3	0	0	0	0
	10-35	21-35	6.1-7.3	0	0	0	0
	35-72	16-21	6.1-7.3	0	0	0	0
RKO:							
Rock outcrop, granite	0-60	---	---	---	---	---	---
RuuA:							
Rups-----	0-7	16-21	7.4-8.4	0-5	0-2	4.0-20.0	0-4
	7-21	16-21	7.9-8.4	3-15	1-5	8.0-29.9	0-13
	21-43	16-21	7.9-8.4	3-15	1-5	8.0-29.9	0-13
	43-80	16-27	7.9-8.4	3-15	1-5	8.0-29.9	0-13
RuwA:							
Rups-----	0-15	16-21	7.4-8.4	0-5	0-2	4.0-20.0	0-4
	15-30	16-21	7.9-8.4	3-15	1-5	8.0-29.9	0-13
	30-48	16-21	7.9-8.4	3-15	1-5	8.0-29.9	0-13
	48-80	16-27	7.9-8.4	3-15	1-5	8.0-29.9	0-13
SKRG:							
Spikebox-----	0-3	5.5-12	7.4-8.4	0-10	0	0.0-2.0	0
	3-12	5.5-12	7.9-8.4	0-15	0-2	0.0-2.0	0
	12-40	---	---	---	---	---	---
Knoco-----	0-5	12-24	7.4-8.4	1-8	0-15	1.0-4.0	0-8
	5-11	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
	11-80	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
Rock outcrop-----	0-62	---	---	---	---	---	---

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
SpDB: Springer-----	0-13	2.0-8.0	5.6-7.8	0	0	0.0-1.0	0
	13-42	3.6-13	6.1-8.4	0	0	0.0-1.0	0
	42-57	1.5-8.4	6.6-8.4	0	0	0.0-1.0	0
	57-80	6.0-16	6.6-8.4	0-5	0	0.0-2.0	0
Devol-----	0-14	2.0-5.5	5.6-7.8	0	0	0	0
	14-29	5.5-11	6.1-8.4	0	0	0	0
	29-45	2.0-11	6.1-8.4	0	0	0	0
	45-65	2.0-6.7	6.6-8.4	0-5	0	0	0
	65-80	2.0-6.7	6.6-8.4	0-5	0	0	0
SplA: Spur-----	0-11	5.0-15	7.9-8.4	0-2	0	0.0-2.0	0
	11-43	12-23	7.9-8.4	2-10	0	0.0-2.0	0
	43-75	6.0-23	7.9-8.4	2-10	0-2	0.0-4.0	0-6
	75-90	6.0-23	7.9-8.4	2-10	0-2	0.0-4.0	0-6
SurA: Spur-----	0-14	17-21	7.9-8.4	0-2	0	0.0-2.0	0
	14-30	12-21	7.9-8.4	2-10	0	0.0-2.0	0
	30-51	12-21	7.9-8.4	2-10	0	0.0-2.0	0
	51-80	9.6-21	7.9-8.4	2-10	0	0.0-4.0	0
SuuA: Spur-----	0-10	17-21	7.9-8.4	0-2	0	0.0-2.0	0
	10-16	12-21	7.9-8.4	0-2	0	0.0-2.0	0
	16-48	12-21	7.9-8.4	2-10	0	0.0-2.0	0
	48-80	9.6-21	7.9-8.4	2-10	0-2	0.0-4.0	0
SuwA: Spur-----	0-8	17-21	7.9-8.4	0-2	0	0.0-2.0	0
	8-17	12-21	7.9-8.4	2-10	0	0.0-2.0	0
	17-35	12-21	7.9-8.4	2-10	0	0.0-2.0	0
	35-49	12-21	7.9-8.4	2-10	0	0.0-2.0	0
	49-80	9.6-21	7.9-8.4	2-10	0	0.0-4.0	0
TARD: Talpa-----	0-7	12-17	7.9-8.4	10-40	0	0	0
	7-40	---	---	---	---	---	---
Aspermont-----	0-10	11-22	7.9-8.4	2-10	0	0.0-2.0	0
	10-42	7.5-24	7.9-8.4	15-30	0	0.0-2.0	0
	42-80	12-24	7.4-8.4	1-8	0-2	0.0-2.0	0-8
Rock outcrop-----	0-60	---	---	---	---	---	---
TilA: Tillman-----	0-8	16-22	6.6-8.4	0	0	0.0-2.0	0-1
	8-15	20-30	7.4-8.4	0-2	0	0.0-2.0	0-1
	15-45	20-30	7.9-8.4	2-15	0-2	0.0-4.0	0-12
	45-62	20-30	7.9-8.4	5-30	0-2	0.0-8.0	0-12
	62-78	15-35	7.4-8.4	2-30	0-2	0.0-8.0	0-12
	78-90	15-35	7.9-8.4	1-10	0-2	0.0-8.0	0-12
	90-100	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8



# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
TilB: Tillman-----	0-6	16-22	6.6-8.4	0	0	0.0-2.0	0-1
	6-10	20-30	7.4-8.4	0-2	0	0.0-2.0	0-1
	10-25	20-30	7.4-8.4	0-5	0-2	0.0-2.0	0-2
	25-48	20-30	7.9-8.4	2-15	0-2	0.0-4.0	0-12
	48-60	20-30	7.9-8.4	5-30	0-2	0.0-8.0	0-12
	60-82	15-35	7.4-8.4	2-30	0-2	0.0-8.0	0-12
	82-90	15-35	7.9-8.4	1-10	0-2	0.0-8.0	0-12
	90-100	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
TipA: Tipton-----	0-8	9.5-16	6.6-7.8	0	0	0	0
	8-15	9.5-16	6.6-7.8	0	0	0	0
	15-25	12-21	6.6-8.4	0	0	0	0
	25-41	12-21	7.4-8.4	1-10	0	0	0
	41-66	9.5-21	7.9-8.4	3-15	0	0.0-2.0	0
	66-80	6.5-21	7.9-8.4	1-15	0	0.0-4.0	0
TlvB: Tilvern-----	0-5	21-25	7.4-8.4	0-5	0	0.0-2.0	0-2
	5-11	21-33	7.9-8.4	2-10	0	0.0-2.0	0-2
	11-31	18-33	7.9-8.4	2-15	0-3	0.0-4.0	0-6
	31-44	18-33	7.9-8.4	2-20	1-5	2.0-12.0	2-12
	44-51	18-33	7.9-8.4	2-20	1-5	2.0-12.0	2-12
	51-80	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
TpfA: Tipton-----	0-7	6.5-12	6.6-7.8	0	0	0	0
	7-13	6.5-12	6.6-7.8	0	0	0	0
	13-24	9.5-16	6.6-7.8	0	0	0	0
	24-47	12-21	6.6-8.4	0	0	0	0
	47-63	12-21	7.4-8.4	1-10	0	0	0
	63-80	6.5-21	7.9-8.4	1-15	0	0.0-4.0	0
TrwB: Treadway-----	0-13	10-12	7.9-9.0	0-10	0-5	0.0-8.0	0-8
	13-24	9.0-24	7.9-9.0	2-15	2-15	2.0-16.0	1-30
	24-80	9.0-24	7.9-9.0	2-15	2-15	2.0-16.0	1-30
VeKE: Vernon-----	0-6	18-24	7.9-8.4	0-15	0	0.0-2.0	0-2
	6-26	21-35	7.9-8.4	5-20	0-2	0.0-8.0	0-4
	26-80	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
Knoco-----	0-6	12-24	7.4-8.4	1-8	0-15	1.0-4.0	0-8
	6-16	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
	16-60	12-24	7.4-8.4	1-8	0-15	1.0-8.0	0-8
VerC: Vernon-----	0-6	18-24	7.9-8.4	0-15	0	0.0-2.0	0-2
	6-26	21-35	7.9-8.4	5-20	0-2	0.0-8.0	0-4
	26-35	21-35	7.9-8.4	5-20	0-2	0.0-8.0	0-4
	35-80	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8
VeTE: Vernon-----	0-7	18-24	7.9-8.4	0-15	0	0.0-2.0	0-2
	7-16	21-35	7.9-8.4	5-20	0-2	0.0-8.0	0-4
	16-25	21-35	7.9-8.4	5-20	0-2	0.0-8.0	0-4
	25-38	21-35	7.9-8.4	1-15	0-2	0.0-8.0	0-4
	38-80	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
Talpa, stony-----	0-9 9-40	12-17 ---	7.9-8.4 ---	10-40 ---	0 ---	0 ---	0 ---
W: Water-----	0-80	---	---	---	---	---	---
WlwB: Willow-----	0-7 7-31 31-39 39-54 54-80	11-19 15-23 9.0-18 6.7-12 3.8-12	6.1-7.8 6.6-8.4 7.9-9.0 7.9-9.0 7.9-9.0	0-2 0-10 10-40 10-25 1-8	0 0-1 0-2 0-5 0-2	0.0-1.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0	0 0 0 0-4 0-4
WooB: Woodward-----	0-15 15-32 32-38 38-80	6.0-12 6.0-12 6.0-12 3.8-12	6.6-8.4 7.4-8.4 7.4-8.4 7.4-8.4	0-5 2-10 2-15 1-8	0 0 0-2 0-2	0 0 0.0-2.0 0.0-2.0	0 0 0 0-4
WooC: Woodward-----	0-7 7-19 19-28 28-80	6.0-12 6.0-12 6.0-12 3.8-12	6.6-8.4 7.4-8.4 7.4-8.4 7.4-8.4	0-5 2-10 2-15 1-8	0 0 0-2 0-2	0 0 0.0-2.0 0.0-2.0	0 0 0 0-4
WoQE: Woodward-----	0-9 9-21 21-26 26-80	6.0-12 6.0-12 6.0-12 3.8-12	6.6-8.4 7.4-8.4 7.4-8.4 7.4-8.4	0-5 2-10 2-15 1-8	0 0 0-2 0-2	0 0 0.0-2.0 0.0-2.0	0 0 0 0-4
Quinlan-----	0-4 4-12 12-40	6.0-13 6.0-18 3.8-16	7.4-8.4 7.4-8.4 7.4-8.4	0-5 2-15 1-8	0 0-2 0-2	0 0.0-2.0 0.0-2.0	0 0 0-4
WslA: Westola-----	0-12 12-50 50-80	7.0-11 4.0-11 4.0-11	7.4-8.4 7.9-8.4 7.9-8.4	1-5 1-10 1-10	0 0 0	0 0 0	0 0 0
WstA: Westola-----	0-8 8-19 19-30 30-80	7.0-11 7.0-11 4.0-11 4.0-11	7.4-8.4 7.4-8.4 7.9-8.4 7.9-8.4	1-5 1-5 1-10 1-10	0 0 0 0	0 0 0 0	0 0 0 0
WtlA: Westill-----	0-5 5-15 15-24 24-55 55-70 70-80	16-22 20-30 20-30 18-35 15-35 12-24	6.6-8.4 7.4-8.4 7.4-8.4 7.9-8.4 7.9-8.4 7.4-8.4	0 0-5 0-10 5-15 1-10 1-8	0 0 0 0-2 0-3 0-2	0.0-2.0 0.0-2.0 0.0-2.0 0.0-4.0 1.0-8.0 1.0-8.0	0-1 0-2 0-2 0-6 0-6 0-8

# Soil Survey of Greer County, Oklahoma

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	pH	Pct	Pct	mmhos/cm	
WtlB: Westill-----	0-9	16-22	6.6-8.4	0	0	0.0-2.0	0-1
	9-16	20-30	7.4-8.4	0-5	0	0.0-2.0	0-2
	16-47	18-35	7.9-8.4	5-15	0-2	0.0-4.0	0-6
	47-56	15-35	7.9-8.4	5-15	0-3	1.0-8.0	0-6
	56-68	15-35	7.9-8.4	1-10	0-3	1.0-8.0	0-6
	68-80	12-24	7.4-8.4	1-8	0-2	1.0-8.0	0-8

## Chemical Analyses of Selected Soils

The results of chemical analysis of several pedons are shown in the table, "Chemical Analyses of Selected Soils." The data are for soils sampled at carefully selected sites. The pedons are representative of the series described in this survey. Soil samples were analyzed by the National Soil Survey Laboratory, Lincoln, Nebraska.

Most determinations, except those for grain-size analysis and bulk density, were made on soil material smaller than 2 millimeters across. Measurements reported as percent or quantity of unit weight were calculated on an oven-dry basis. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods (6).

*Organic carbon*—wet combustion. Walkley-Black modified acid dichromate, ferric sulfate titration (6A1c).

*Extractable cations*—ammonium acetate pH 7.0, atomic absorption; calcium (6N2e), magnesium (6O2d), sodium (6P2b), potassium (6Q2b).

*Extractable acidity*—barium chloride-triethanolamine IV (6H5a).

*Cation-exchange capacity*—ammonium acetate, pH 7.0, steam distillation (5A8b).

*Cation-exchange capacity*—sum of cations (5A3a).

*Base saturation*—sum of cations, TEA, pH 8.2 (5C3).

*Base saturation*—ammonium acetate, pH 7.0 (5C1).

*Reaction (pH)*—calcium chloride (8C1f).

*Reaction (pH)*—1:1 water dilution (8C1f).

# Soil Survey of Greer County, Oklahoma

## Chemical Analyses of Selected Soils

(The symbol < means less than. TR means trace. BDL means below detection limits. Dashes indicate that analyses were not made.)

Soil name and sample number*	Depth	Horizon	Total carbon	Extractable bases (Ammonium acetate)				Extractable acidity		Cation-exchange capacity		Base saturation	Calcium Carbonate less Than 2mm	Exch. Na	SAR	Salinity	PH	
				Ca	Mg	Na	K	able	Sum of cations	Ammonium acetate	Sum of cations	Ammonium acetate					Ca12	H20
			Pct	-----Milliequivalents per 100 grams of soil-----								Pct	Pct	Pct				
	In																	
Beckman S000K-009-001 (1)	0-4	A	2.97	27.4	5.9	BDL	1.7	2.4	37.4	28.5	94	100	TR	TR	1	1.26	7.3	7.7
	4-14	Bw	0.87	30.7	5.8	0.7	1.1	0.6	38.9	18.2	98	100	2	1	3	2.68	7.7	8.0
	14-24	Bkylz1	0.92	59.3	7.9	3.1	0.7	---	---	20.8	---	100	4	4	7	6.17	7.8	7.9
	24-41	Bkylz2	0.62	135.4	9.2	10.5	0.3	---	---	9.8	---	100	5	23	23	15.79	8.2	8.2
	41-51	Cylz1	0.55	104.7	10.7	12.8	0.6	---	---	10.6	---	100	4	26	24	17.06	8.2	8.2
	51-72	Cylz2	0.73	92.6	9.2	9.0	0.6	---	---	17.2	---	100	6	11	19	12.61	8.2	8.2
	72-80	Cylz3	1.38	121.0	9.3	7.4	0.9	---	---	26.3	---	100	10	7	16	9.80	8.1	8.1
	84-99	2Cr	0.18	43.0	11.8	9.4	1.6	---	---	18.2	---	100	1	22	16	9.98	8.0	8.0
	0-4	Ap	1.27	20.8	1.2	BDL	0.7	---	---	14.5	---	100	1	BDL	---	---	7.4	7.8
	4-7	Apd	1.06	25.5	1.3	BDL	0.6	---	---	14.5	---	100	2	BDL	---	---	7.5	7.9
Burford S010K-055-002 (2)	7-12	Bw1	0.78	18.1	1.8	BDL	0.6	---	---	18.5	---	100	TR	BDL	---	---	7.2	7.9
	12-18	Bw2	0.65	19.7	2.7	BDL	0.6	---	---	19.5	---	100	TR	BDL	---	---	7.4	7.8
	18-28	2Bk1	1.96	48.7	2.8	BDL	0.3	---	---	11.2	---	100	15	BDL	---	---	7.7	8.1
	28-42	2Bk2	1.13	46.6	3.9	TR	0.3	---	---	8.1	---	100	9	TR	---	---	7.7	8.2
	42-54	2C/Bk	1.30	43.2	6.0	0.3	0.3	---	---	9.3	---	100	11	3	---	---	7.8	8.3
	54-61	2Cd1	0.36	27.3	10.4	1.0	0.5	---	---	16.1	---	100	3	5	3	0.55	7.7	8.2
	61-71	2Cd2	0.41	35.2	10.3	1.1	0.5	---	---	16.2	---	100	3	5	4	0.65	7.8	8.1
	0-10	A	0.28	2.1	0.4	BDL	0.2	0.5	3.2	2.6	84	100	---	BDL	---	---	5.6	6.1
	10-18	E	0.14	1.9	0.4	TR	0.3	BDL	2.6	2.3	100	100	---	1	---	---	6.0	6.1
	18-31	E/Bt1	0.11	2.7	0.7	BDL	0.3	BDL	3.7	3.6	100	100	---	BDL	---	---	5.5	6.0
Eda S020K-055-003	31-47	E/Bt1	0.07	2.4	0.6	BDL	0.2	1.0	4.2	3.0	76	100	---	BDL	---	---	5.8	6.2
	47-59	E/Bt2	0.04	1.5	0.5	0.2	0.2	0.3	2.7	2.3	89	100	---	10	---	---	6.2	6.4
	59-80	C	0.12	1.9	0.8	0.2	0.2	0.6	3.7	3.1	84	100	---	5	---	---	5.5	6.1
	0-8	A	0.28	2.1	0.4	BDL	0.2	0.5	3.2	2.6	84	100	---	BDL	---	---	5.6	6.1
	10-18	E	0.14	1.9	0.4	TR	0.3	BDL	2.6	2.3	100	100	---	1	---	---	6.0	6.1
	18-31	E/Bt1	0.11	2.7	0.7	BDL	0.3	BDL	3.7	3.6	100	100	---	BDL	---	---	5.5	6.0
	31-47	E/Bt1	0.07	2.4	0.6	BDL	0.2	1.0	4.2	3.0	76	100	---	BDL	---	---	5.8	6.2
	47-59	E/Bt2	0.04	1.5	0.5	0.2	0.2	0.3	2.7	2.3	89	100	---	10	---	---	6.2	6.4
	59-80	C	0.12	1.9	0.8	0.2	0.2	0.6	3.7	3.1	84	100	---	5	---	---	5.5	6.1
	0-8	Ap	0.92	12.3	2.6	BDL	0.2	2.8	17.9	13.6	84	100	---	---	---	---	6.7	7.3
Gotebo S000K-055-002	8-17	Bw	0.32	9.0	2.9	BDL	BDL	2.8	14.7	11.1	81	100	---	---	---	---	7.1	7.6
	17-26	B/Ck	0.48	18.0	2.1	BDL	BDL	---	---	6.4	---	100	3	---	---	---	7.7	8.2
	26-52	Cd1	0.68	25.7	3.6	BDL	BDL	---	---	4.6	---	100	5	---	---	---	7.9	8.5
	52-67	Cd2	1.13	34.8	11.6	BDL	BDL	---	---	9.1	---	100	9	---	---	---	8.1	8.5
	0-4	Ap1	1.37	2.3	0.7	BDL	0.6	1.2	4.8	3.5	75	100	---	BDL	---	---	5.5	5.7
	4-13	Ap2	0.14	0.9	0.2	BDL	0.3	0.1	1.5	1.7	93	82	---	BDL	---	---	5.2	5.5
	13-19	Ap/Bt	0.10	1.0	0.3	BDL	0.3	BDL	1.6	1.6	100	100	---	BDL	---	---	5.7	5.9
	13-19	Ap/Bt	0.19	1.9	0.5	BDL	0.5	0.3	3.2	2.9	91	100	---	BDL	---	---	5.6	6.0
	19-26	Bt1	0.32	4.4	1.1	TR	0.9	1.0	7.4	6.3	86	100	---	TR	---	---	5.9	6.4
	26-33	Bt2	0.40	7.5	1.8	BDL	1.1	1.0	11.4	7.6	91	100	---	BDL	---	---	6.0	6.7
Grandmore S020K-055-002 (3)	33-42	Bt3	0.38	8.9	2.2	BDL	0.7	1.4	13.2	11.7	89	100	---	BDL	---	---	6.4	6.8
	42-52	Bt4	0.29	8.7	2.4	TR	0.4	1.6	13.1	11.1	88	100	---	TR	---	---	6.6	7.1
	52-69	2Btg	0.35	15.0	4.6	0.1	0.6	1.8	22.1	20.3	92	100	---	TR	---	---	6.7	6.8
	69-78	2BCg	0.06	3.0	1.2	0.1	0.2	BDL	4.5	4.2	100	100	---	3	---	---	6.8	7.3
	78-89	2C	0.04	3.6	1.4		0.2	BDL	5.2	4.9	100	100	---	BDL	---	---	6.6	7.3
	0-4	Ap1	1.37	2.3	0.7	BDL	0.6	1.2	4.8	3.5	75	100	---	BDL	---	---	5.5	5.7
	4-13	Ap2	0.14	0.9	0.2	BDL	0.3	0.1	1.5	1.7	93	82	---	BDL	---	---	5.2	5.5
	13-19	Ap/Bt	0.10	1.0	0.3	BDL	0.3	BDL	1.6	1.6	100	100	---	BDL	---	---	5.7	5.9
	13-19	Ap/Bt	0.19	1.9	0.5	BDL	0.5	0.3	3.2	2.9	91	100	---	BDL	---	---	5.6	6.0
	19-26	Bt1	0.32	4.4	1.1	TR	0.9	1.0	7.4	6.3	86	100	---	TR	---	---	5.9	6.4

# Soil Survey of Greer County, Oklahoma

Chemical Analyses of Selected Soils--Continued

Soil name and sample number*	Depth	Horizon	Total carbon	Extractable bases (Ammonium acetate)				Extractable acidity	Cation-exchange capacity		Base saturation Sum of cations	Calcium Carbonate less Than 2mm	Exch. Na	SAR	Salinity	PH	
				Ca	Mg	Na	K		Sum of cations	Ammonium acetate						CaCl2 1:2	H2O 1:1
In			Pct	-----Milliequivalents per 100 grams of soil-----							Pct	Pct	Pct		MMhos /cm		
Hayfork S000K-055-006	0-4	A1	1.75	7.5	4.6	0.2	1.2	3.7	17.2	14.6	78	92	2	---	---	5.7	6.4
	4-11	A2	1.04	12.4	10.5	0.4	2.0	2.4	27.7	24.6	91	100	2	---	---	6.7	7.3
	11-27	Bk	0.92	40.3	62.8	1.2	1.1	---	---	21.3	---	100	4	2	1.45	7.8	8.2
	27-41	Bkyl	1.03	286.2	69.5	2.5	0.8	---	---	16.3	---	100	7	4	6.84	8.0	8.0
	41-50	Bky2	0.94	483.2	47.4	2.1	0.6	---	---	11.1	---	100	9	4	5.87	8.0	8.0
	50-60	Cyz	0.59	453.1	47.4	2.2	0.6	---	---	12.4	---	100	8	4	5.90	8.0	8.0
	0-6	Ap	0.84	6.4	2.8	0.2	0.9	---	---	12.5	---	82	2	---	---	4.9	5.5
Lawton S010K-055-006 (4)	6-9	BAd	0.87	12.6	5.4	0.2	0.8	---	---	19.8	---	96	1	---	---	5.9	6.4
	9-22	Bt1	0.73	16.0	6.9	0.3	0.7	---	---	23.5	---	100	1	---	---	6.7	7.1
	22-34	Bt2	0.59	18.2	7.6	0.6	0.7	---	---	22.7	---	100	2	---	---	7.3	7.7
	34-42	2Bt1	0.54	29.2	7.5	0.9	0.6	---	---	19.3	---	100	4	2	0.68	7.6	8.1
	42-57	2Bt2	0.18	15.5	7.3	1.5	0.6	---	---	18.2	---	100	7	4	0.96	7.6	8.1
	57-70	2Bt3	0.09	12.7	8.9	1.9	0.7	---	---	21.7	---	100	7	5	0.93	7.5	7.9
	70-83	2Bt4	0.06	11.6	8.9	2.2	0.7	---	---	22.6	---	100	8	6	0.85	7.4	7.9
	83-91	2Bt5	0.05	11.0	6.7	1.7	0.6	---	---	17.3	---	100	8	6	0.83	7.6	8.1
	91-102	3Bt	0.06	13.7	6.8	1.5	0.6	---	---	19.4	---	100	7	5	0.65	7.6	8.0
	0-5	Ap	1.95	45.8	4.7	0.8	0.8	---	---	13.9	---	100	5	2	1.14	7.9	8.0
	5-14	Bkss	1.70	46.8	7.9	2.6	0.5	---	---	15.8	---	100	13	6	1.72	8.0	8.4
	14-32	Bss	0.90	130.7	12.9	6.6	0.6	---	---	19.6	---	100	19	9	7.18	7.9	8.0
Duke Sampled as Mangum S020K-055-004 (5)	32-48	Bssyz1	0.74	115.7	14.1	7.8	0.7	---	---	23.1	---	100	17	11	8.17	7.9	7.9
	48-56	Bssyz2	0.59	210.2	15.0	9.4	0.8	---	---	23.6	---	100	3	22	11	8.07	7.8
	56-80	Bssyz3	0.56	116.6	13.9	9.8	1.0	---	---	25.5	---	100	20	11	7.34	7.7	7.8
	0-10	A	0.32	1.8	0.3	0.2	0.2	1.1	3.6	2.5	69	100	8	---	---	5.3	5.9
	10-24	E1	0.06	1.2	0.1	0.2	0.1	0.8	2.4	1.3	67	100	15	---	---	5.7	6.3
Nobscot S000K-055-005	24-32	E2	0.07	1.7	0.2	0.2	0.2	BDL	2.3	1.9	100	100	11	---	---	5.8	6.5
	32-38	Bt1	0.17	6.4	1.2	0.3	0.5	2.3	10.7	7.7	79	100	4	---	---	5.9	6.6
	38-51	Bt2	0.10	6.0	1.7	0.2	0.5	0.6	9.0	8.0	93	100	3	---	---	5.9	6.7
	51-62	Bt3	0.06	5.0	1.8	0.3	0.5	1.2	8.8	7.2	86	100	4	---	---	6.0	6.7
	62-80	Bt4	0.03	4.6	1.7	0.3	0.3	0.2	7.1	6.0	97	100	5	---	---	6.2	6.9
	0-8	Apd	1.02	2.4	7.5	1.0	0.1	---	---	11.6	---	95	9	---	---	5.4	6.0
	8-16	BAd	0.71	12.5	0.8	0.4	0.8	---	---	16.7	---	87	2	---	---	6.2	6.8
	16-27	Bt1	0.61	17.0	5.4	0.6	0.9	---	---	23.7	---	100	2	---	---	6.5	6.9
	27-39	Bt2	0.48	25.9	6.2	0.9	0.8	---	---	23.9	---	100	4	---	---	7.4	7.8
	39-57	Btk1	0.52	37.1	5.0	1.1	0.7	---	---	24.1	---	100	4	3	0.83	7.6	8.0
Roark S010K-055-005	57-74	Btk2	0.45	37.4	8.0	1.8	1.0	---	---	26.0	---	100	5	4	1.23	7.6	7.8
	74-89	2Bckg	0.59	45.3	5.9	1.9	0.7	---	---	20.1	---	100	8	5	1.04	7.7	8.1
	89-99	2Bcg	0.05	13.3	4.2	1.7	0.7	---	---	17.5	---	100	8	6	0.81	7.6	8.1

# Soil Survey of Greer County, Oklahoma

Chemical Analyses of Selected Soils--Continued

Soil name and sample number*	Depth	Horizon	Total carbon	Extractable bases (Ammonium acetate)			Extractable acidity	Cation-exchange capacity		Base saturation	Calcium carbonate less than 2mm	Exch. Na	SAR	Salinity	pH	
				Ca	Mg	Na + K		Sum of cations	Ammonium acetate						CaCl2 1:2	H2O 1:1
In			Pct	-----Milliequivalents per 100 grams of soil-----						Pct	Pct	Pct		MMhos /cm		
Springer Sampled as Devol S000K-055-004 (6)	0-7	Ap1	0.21	2.7	0.4	0.3	0.1	3.5	2.1	100	---	14	---	---	7.5	8.0
	7-13	Ap2	0.15	1.5	0.2	0.3	0.1	3.2	2.2	66	---	14	---	---	5.2	5.8
	13-22	Bt1	0.22	4.2	1.0	0.3	0.2	9.7	6.3	59	---	5	---	---	5.5	6.3
	22-30	Bt2	0.15	3.7	1.1	0.3	0.2	7.1	5.5	75	---	4	---	---	5.7	6.3
	30-42	Bt3	0.11	3.2	1.0	0.4	0.3	6.5	4.6	75	---	9	---	---	5.8	6.5
	42-57	BC	0.06	2.6	0.8	0.3	0.2	5.3	3.8	74	---	8	---	---	5.9	6.6
	57-67	2BA	0.11	5.2	1.7	0.3	0.3	8.2	7.9	91	---	4	---	---	6.0	6.6
	67-80	2Bt	0.08	7.3	2.9	0.4	0.4	11.7	11.8	94	---	3	---	---	6.0	6.6
	0-6	Ap	0.92	7.1	3.6	0.1	1.1	16.5	12.9	72	---	1	---	---	5.2	5.7
	6-15	A	0.75	11.2	4.2	BDL	0.7	17.8	15.6	90	---	BDL	---	---	6.3	6.8
Spur S020K-055-001 (7)	15-23	Bw1	0.42	12.2	2.7	BDL	0.5	16.7	13.9	92	---	BDL	---	---	7.2	7.7
	23-38	Bw2	0.30	11.2	2.6	BDL	0.4	15.2	12.4	93	---	BDL	---	---	7.3	7.7
	38-48	Bw3	0.20	9.6	2.6	BDL	0.4	12.9	10.5	98	---	BDL	---	---	7.5	8.0
	48-65	Bk	0.52	38.8	3.6	0.1	0.3	---	7.8	---	---	3	---	---	8.1	8.4
	65-78	BC	0.70	45.5	3.9	TR	0.2	---	5.1	---	---	5	---	---	8.1	8.6
	78-81	C	1.59	46.0	2.8	0.2	0.2	---	3.1	---	---	13	---	---	8.3	8.7
	0-2	A1	0.90	17.2	4.1	BDL	0.6	22.8	11.1	96	---	2	---	---	0.90	7.5
	2-13	A2	0.74	43.8	4.2	BDL	0.4	---	11.5	100	---	3	---	---	2.86	7.7
	13-24	Bkz1	0.43	137.0	4.7	0.9	0.3	---	11.6	100	---	2	---	---	4.05	7.6
	24-37	Bkz2	0.51	64.1	11.2	12.4	0.6	---	18.4	100	---	2	---	---	21	10.60
Willow S000K-055-001 (8)	37-43	Bkz3	0.79	70.0	9.5	12.6	0.5	---	16.5	100	---	5	---	---	25	12.34
	43-58	Bkz4	0.52	70.3	10.6	15.7	0.6	---	16.2	100	---	2	---	---	27	12.43
	58-70	Bkz5	0.43	57.7	11.8	19.6	0.8	---	22.0	100	---	2	---	---	28	13.80
	70-80	Bkssyz	0.48	52.4	11.0	18.8	0.7	---	18.1	100	---	2	---	---	29	14.06
	0-6	Ap1	1.06	10.7	3.7	BDL	1.1	22.4	16.0	69	---	TR	---	---	5.2	5.7
	6-10	Ap2	0.81	13.8	4.2	BDL	0.6	23.6	19.0	79	---	BDL	---	---	6.0	6.5
	10-21	Bt1	0.64	17.9	5.7	BDL	0.5	28.4	24.2	85	---	BDL	---	---	6.7	7.2
	21-29	Bt2	0.32	13.4	4.2	BDL	0.4	21.3	17.1	85	---	TR	---	---	7.1	7.6
	29-41	2BK	3.65	48.0	2.6	BDL	BDL	---	9.6	100	---	30	---	---	0.44	7.8
	41-55	2BC	2.18	37.7	2.6	BDL	TR	---	16.8	100	---	18	---	---	0.39	8.1
	55-80	2Cr	0.80	26.2	3.3	BDL	BDL	---	10.0	100	---	7	---	---	8.1	8.7

- (1) This pedon was sampled in Beckham Co., OK and was originally correlated to mapping unit 6 in the 1980 published soil survey of Beckham County.
- (2) This pedon has slightly more calcium carbonate content in the 2Bk1 horizon than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (3) This pedon has slightly less clay content in the textural control section than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (4) This pedon has a mollic epipedon more than 20 inches thick which is more than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (5) This pedon has slightly more gypsum content than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (6) This pedon has loamy sand throughout the argillic horizon and does not qualify for coarse-loamy particle size class and is a similar component with management and interpretations that are not significantly different from the soil series classification.

- (7) This pedon has a regular decrease in organic carbon and is a similar component with management and interpretations that are not significantly different from the soil series classification.
- (8) This pedon has slightly more clay content in the Bt1 horizon than the series range allows and is a similar component with management and interpretations that are not significantly different from the soil series classification.

\* Location of Sampled pedons is as follows:

Beckman (S000K-009-001), about 430 feet north and 675 feet east of the southwest corner of sec. 28, T. 8 N., R. 23 W.  
 Burford (S010K-055-002), about 2,350 feet north and 1,490 feet west of the southeast corner of sec. 10, T. 6 N., R. 22 W.  
 Duke (S020K-055-004), about 350 feet south and 2,100 feet west of the northeast corner of sec. 16, T. 3 N., R. 22 W.  
 Eda (S020K-055-003), about 200 feet north and 500 feet east of the southwest corner of sec. 1, T. 7 N., R. 22 W.  
 Gotebo (S000K-055-002), about 1,970 feet south and 850 feet west of the northeast corner of sec. 17, T. 6 N., R. 22 W.  
 Grandmore (S020K-055-002), about 350 feet north and 1,600 feet west of the southeast corner of sec. 8, T. 7 N., R. 21 W.  
 Hayfork (S000K-055-006), about 60 feet north and 1,340 feet east of the southwest corner of sec. 5, T. 7 N., R. 23 W.  
 Lawton (S010K-055-006), about 1,900 feet south and 300 feet east of the northwest corner of sec. 34, T. 6 N., R. 21 W.  
 Nobscot (S000K-055-005), about 380 feet north and 2,270 feet east of the southwest corner of sec. 18, T. 7 N., R. 21 W.  
 Roark (S010K-055-005), about 350 feet north and 900 feet west of the southeast corner of sec. 11, T. 5 N., R. 21 W.  
 Springer (S000K-055-004), about 760 feet south and 1,900 feet west of the northeast corner of sec. 3, T. 7 N., R. 22 W.  
 Spur (S020K-055-001), about 250 feet north and 1,300 feet east of the southwest corner of sec. 6, T. 5 N., R. 21 W.  
 Treadway (S000K-055-003), about 2,100 feet south and 400 feet east of the northwest corner of sec. 1, T. 7 N., R. 24 W.  
 Willow (S000K-055-001), about 600 feet south and 400 feet west of the northeast corner of sec. 17, T. 6 N., R. 22 W.



## Water Features

The table, "Water Features," shows estimates of several important water features used in land use planning that involves engineering considerations. These features are described in the following paragraphs.

*Hydrologic soil groups* are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a seasonal high water table, the intake rate, permeability after prolonged wetting, and the depth to a very slowly permeable layer. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil layers.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clayey soils that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Surface runoff* refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation.

The frequency of ponding generally is expressed as none, rare, occasional, or frequent. *None* means no reasonable possibility of ponding. The chance of ponding is nearly 0 percent in any year. *Rare* means that ponding is unlikely but is possible under unusual weather conditions. The chance of ponding is nearly 0 percent to 5

percent in any year (ponding occurs nearly 0 times to 5 times in 100 years). *Occasional* means that ponding is expected infrequently under usual weather conditions. The chance of ponding is 5 to 50 percent in any year (ponding occurs 5 to 50 times in 100 years). *Frequent* means that ponding is likely to occur often under usual weather conditions. The chance of ponding is more than 50 percent in any year (ponding occurs more than 50 times in 100 years).

Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days). The time of year that flooding is most likely to occur is expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on ponding is based on evidence of ponded areas as indicated by debris along high water lines and by other signs of maximum water height.

Also considered are local information about the extent and level of ponding and the relation of each soil on the landscape to historic ponding. Information on the extent of ponding based on soil data is less specific than that provided by detailed engineering surveys that delineate areas that are subject to ponding at specific frequency levels.

*Flooding*, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes.

The table shows the frequency and duration of flooding and the time of year when flooding is not likely to occur. Frequency, duration, and probable dates of occurrence are estimated.

Frequency generally is expressed as none, rare, occasional, or frequent. *None* means no reasonable possibility of flooding. The chance of flooding is nearly 0 percent in any year. *Rare* means that flooding is unlikely but is possible under unusual weather conditions. The chance of flooding is nearly 0 percent to 5 percent in any year (flooding occurs nearly 0 times to 5 times in 100 years). *Occasional* means that flooding is expected infrequently under usual weather conditions. The chance of flooding is 5 to 50 percent in any year (flooding occurs 5 to 50 times in 100 years). *Frequent* means that flooding is likely to occur often under usual weather conditions. The chance of flooding is more than 50 percent in any year (flooding occurs more than 50 times in 100 years).

Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days). The time of year that flooding is most likely to occur is expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and level of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

# Soil Survey of Greer County, Oklahoma

## Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
AceB: Acme-----	B	Negligible	Jan-May Jun-Oct Nov-Dec	Ft 4.0-6.0 --- 4.0-6.0	Ft >6.0 --- >6.0	Ft ---	---	None None None	---	None None None
ArHF: Arnett----- Hardeman-----	B B	Medium Low	Jan-Dec Jan-Dec	--- ---	--- ---	---	---	None None	---	None None
ArnB: Arnett-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
ArnC: Arnett-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
AsmB: Aspermont-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
AsmC: Aspermont-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
BekA: Beckman-----	D	High	Jan-Mar Apr-May Jun-Sep Oct Nov-Dec	3.0-6.0 3.0-6.0 --- 3.0-6.0 3.0-6.0	>6.0 >6.0 --- >6.0 >6.0	---	---	None None None None None	Very brief Very brief Very brief ---	None Occasional Occasional Occasional None
BfdB: Burford-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None
BfdC: Burford-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None
BfSC2: Burford, moderately eroded	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Spikebox, moderately eroded-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None

# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
BfSE: Burford-----	C	High	Jan-Dec	Ft	Ft	Ft				
Spikebox-----	C	High	Jan-Dec	---	---	---	---	None	---	None
Brie: Brico-----	C	High	Jan-Dec	---	---	---	---	None	---	None
Buka: Bukreek-----	B	Negligible	Jan-Dec	---	---	---	---	None	---	None
CarB: Carey-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
CawA: Carwile-----	D	Negligible	Jan-Jun Jul-Sept Oct-Dec	0.0-3.0 1.5-3.0 0.0-3.0	2.0-5.0 2.0-5.0 2.0-5.0	0.0-1.0 --- 0.0-1.0	Long --- Long	Frequent None Frequent	---	None None None
CVRD: Cottonwood-----	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Vinson-----	B	High	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
DAM: Dam-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
DeSD: Devol-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
Springer-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
DkuA: Duke-----	D	High	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None None None	Very brief ---	None Occasional None
DodA: Dodson-----	C	Low	Jan-Dec	---	---	---	---	None	---	None
DodB: Dodson-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None

# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
EatA: Eastall-----	D	Negligible	Jan-Mar Apr-Nov Dec	---	---	---	---	None	---	None
EdsB: Eda-----	A	Negligible	Jan-Dec	---	---	0.0-3.0	Very long	Frequent	---	None
EdsD: Eda-----	A	Very low	Jan-Dec	---	---	---	---	None	---	None
EdsF: Eda-----	A	Very low	Jan-Dec	---	---	---	---	None	---	None
FraB: Frankirk-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None
FryB: Farry-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
GdfB: Grandfield-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
GLGB: Grandmore-----	B	Low	Jan-May Jun-Sept Oct-Dec	3.3-5.0 ---	5.0-6.7 ---	---	---	None	---	None
Grandfield-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
GLsB: Grandfield-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
GLsD: Grandfield-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
GmuA: Gracemont, saline-----	C	High	Jan-Feb Mar-May Jun-Aug Sept-Oct Nov-Dec	0.5-1.5 0.5-1.5 ---	>6.0 >6.0 ---	---	---	None	---	None
								None	Very brief	Occasional
								None	Very brief	Occasional
								None	---	None
								None	---	None

Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
GmWA: Gracemont, saline-----	C	High	Jan-Feb Mar-May Jun-Aug Sept-Oct Nov-Dec	Ft 0.5-1.5 0.5-1.5 --- --- 0.5-1.5	Ft >6.0 >6.0 --- --- >6.0	Ft ---	---	None None None None None	--- Very brief Very brief --- ---	None Frequent Frequent None None
GrrA: Gracemore, saline-----	C	High	Jan-Feb Mar-May Jun-Oct Nov-Dec	0.5-3.5 0.5-3.5 --- 0.5-3.5	>6.0 >6.0 --- >6.0	---	---	None None None None	--- Very brief Very brief ---	None Occasional Occasional None
GtBB: Gotebo-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
HdmB: Hardeman-----	B	Very low	Jan-Dec	---	---	---	---	None	---	None
HdmC: Hardeman-----	B	Very low	Jan-Dec	---	---	---	---	None	---	None
HfKA: Hayfork-----	C	Medium	Jan-Mar Apr-Oct Nov-Dec	--- --- ---	--- --- ---	---	---	None None None	--- Very brief ---	None Rare None
HksA: Headrick-----	B	Negligible	Jan-May Jun-Sept Oct-Dec	1.7-3.3 --- 1.7-3.3	4.2-6.0 --- 4.2-6.0	---	---	None None None	--- --- ---	None None None
HolA: Hollister-----	D	High	Jan-Dec	---	---	---	---	None	---	None
HrAC: Harmon-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Aspermont-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
HSAP: Hardeman-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
Southside-----	A	Low	Jan-Dec	---	---	---	---	None	---	None
Arnett-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None

# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
JesC: Jester-----	A	Negligible	Jan-Dec	Ft	Ft	Ft	---	None	---	None
KcRG: Knoco, bouldery-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
KoBE: Knoco-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Badland-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
KRCF: Knoco-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Cottonwood-----	C	Very high	Jan-Dec	---	---	---	---	None	---	None
LacB: La Casa-----	C	High	Jan-Dec	---	---	---	---	None	---	None
LnuA: Lincoln-----	A	Negligible	Jan-Feb Mar-May Jun-Oct Nov Dec	5.0-6.7 5.0-6.7 --- 5.0-6.7 5.0-6.7	>6.0 >6.0 --- >6.0 >6.0	---	---	None None None None None	--- Very brief Very brief Very brief ---	None Frequent Frequent Frequent None
LnWA: Lincoln-----	A	Negligible	Jan-Feb Mar-May Jun-Oct Nov Dec	5.0-6.7 5.0-6.7 --- 5.0-6.7 5.0-6.7	>6.0 >6.0 --- >6.0 >6.0	---	---	None None None None None	--- Very brief Very brief Very brief ---	None Frequent Frequent Frequent None
Westola-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None None None	--- Very brief ---	None Frequent None
LwtA: Lawton-----	C	Low	Jan-Dec	---	---	---	---	None	---	None

# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
LwtB: Lawton-----	C	Medium	Jan-Dec	Ft	Ft	Ft	---	None	---	None
LwtC2: Lawton, moderately eroded-	C	Medium	Jan-Dec	---	---	---	---	None	---	None
M-W: Water, Miscellaneous-----	---	---	Jan-Dec	---	---	---	---	---	---	---
MagB: Madge-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
MdGB: Madge-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
MknB: McKnight-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
MktB: McKnight-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
MktC2: McKnight, moderately eroded-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
NpsB: Nipsum-----	C	High	Jan-Dec	---	---	---	---	None	---	None
NstC: Nobscot-----	A	Negligible	Jan-Dec	---	---	---	---	None	---	None
OakA: Oakley-----	B	Low	Jan-May Jun-Sept Oct-Dec	5.0-8.0 --- 5.0-8.0	>6.0 --- >6.0	---	---	None None None	---	None None None
OakB: Oakley-----	B	Medium	Jan-May Jun-Sept Oct-Dec	5.0-8.0 --- 5.0-8.0	>6.0 --- >6.0	---	---	None None None	---	None None None
Ozka: Ozark-----	B	Low	Jan-May Jun-Sept Oct-Dec	3.5-5.0 --- 3.5-5.0	5.0-9.0 --- 5.0-9.0	---	---	None None None	---	None None None



# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
PIT: Pits-----	D	Very high	Jan-Dec	Ft	Ft	Ft	---	None	---	None
QHTC: Quanah-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
Talpa-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
QnRG: Quinlan-----	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
RaKA: Roark-----	C	Medium	Jan-Dec	---	---	---	---	None	---	None
RKRG: Rock outcrop, granite-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Brico-----	C	High	Jan-Dec	---	---	---	---	None	---	None
RKO: Rock outcrop, granite-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
RuuA: Rups-----	C	Very high	Jan-Mar Apr-May Jun-Sept Oct Nov-Dec	1.5-3.5 1.5-3.5 --- 1.5-3.5 1.5-3.5	>6.0 >6.0 --- >6.0 >6.0	---	---	None None None None None	--- Very brief Very brief Very brief ---	None Occasional Occasional Occasional None
RuWA: Rups-----	C	Very high	Jan-Mar Apr-May Jun-Sept Oct Nov-Dec	1.5-3.5 1.5-3.5 --- 1.5-3.5 1.5-3.5	>6.0 >6.0 --- >6.0 >6.0	---	---	None None None None None	--- Very brief Very brief Very brief ---	None Frequent Frequent Frequent None
SKRG: Spikebox-----	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Knoco-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None

# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
SpDB: Springer-----	B	Very low	Jan-Dec	Ft	Ft	Ft	---	None	---	None
Devol-----	B	Very low	Jan-Dec	---	---	---	---	None	---	None
Sp1A: Spur-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None	Very brief ---	None Occasional None
SurA: Spur-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None	---	None Rare None
SuuA: Spur-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None	Very brief ---	None Occasional None
SuWA: Spur-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None	Very brief ---	None Frequent None
TARD: Talpa-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Aspermont-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Til1A: Tillman-----	D	Medium	Jan-Dec	---	---	---	---	None	---	None
Til1B: Tillman-----	D	High	Jan-Dec	---	---	---	---	None	---	None
TipA: Tipton-----	B	Negligible	Jan-Dec	---	---	---	---	None	---	None
TilvB: Tilvern-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None

# Soil Survey of Greer County, Oklahoma

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
TpFA: Tipton-----	B	Negligible	Jan-Dec	Ft	Ft	Ft	---	None	---	None
TrWB: Treadway-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
VeKE: Vernon-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Knoco-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
VerC: Vernon-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
VeTE: Vernon-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
Talpa, stony-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None
W: Water-----	---	---	Jan-Dec	---	---	---	---	---	---	---
WlWB: Willow-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
WoOB: Woodward-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
WoOC: Woodward-----	B	Low	Jan-Dec	---	---	---	---	None	---	None
WoQE: Woodward-----	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Quinlan-----	C	High	Jan-Dec	---	---	---	---	None	---	None
WslA: Westola-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None None None	Very brief ---	None Occasional None
WstA: Westola-----	B	Negligible	Jan-Mar Apr-Oct Nov-Dec	---	---	---	---	None None None	Very brief ---	None Rare None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Wt1A: Westill-----	D	High	Jan-Dec	---	Ft	Ft	---	None	---	None
Wt1B: Westill-----	D	Very high	Jan-Dec	---	---	---	---	None	---	None

## Soil Features

The table, "Soil Features," shows estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. Depth *to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For *uncoated steel*, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For *concrete*, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

## Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
AceB: Acme-----	---	In	In	---	None	High	Moderate
ArHF: Arnett-----	---	---	---	---	None	Low	Low
Hardeman-----	---	---	---	---	None	Low	Low
ArnB: Arnett-----	---	---	---	---	None	Low	Low
ArnC: Arnett-----	---	---	---	---	None	Low	Low
AsmB: Aspermont-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
AsmC: Aspermont-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
BekA: Beckman-----	---	---	---	---	None	High	Moderate
BfdB: Burford-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
BfdC: Burford-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
BfSC2: Burford, moderately eroded-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
Spikebox, moderately eroded-----	Paralithic bedrock	8-20	---	Very weakly cemented	None	Moderate	Low
BfSE: Burford-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
Spikebox-----	Paralithic bedrock	8-20	---	Very weakly cemented	None	Moderate	Low

Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
BriE: Brico-----	---	In ---	In ---	---	None	Moderate	Low
BuKA: Bukreek-----	---	---	---	---	None	Moderate	Low
CarB: Carey-----	Densic bedrock	60-100	---	Noncemented	None	Moderate	Low
CawA: Carwile-----	---	---	---	---	None	High	Moderate
CVRD: Cottonwood-----	Lithic bedrock	3-12	---	Strongly cemented	None	High	High
Vinson-----	Lithic bedrock	20-40	---	Strongly cemented	None	Moderate	Low
Rock outcrop-----	Lithic bedrock	0-3	---	Strongly cemented	None	---	---
DAM: Dam-----	---	---	---	---	None	---	---
DeSD: Devol-----	---	---	---	---	None	Low	Low
Springer-----	---	---	---	---	None	Low	Low
DkuA: Duke-----	---	---	---	---	None	High	Low
DodA: Dodson-----	---	---	---	---	None	Moderate	Low
DodB: Dodson-----	---	---	---	---	None	Moderate	Low
EaTA: Eastall-----	---	---	---	---	None	High	Low
EdsB: Eda-----	---	---	---	---	None	Low	Moderate
EdsD: Eda-----	---	---	---	---	None	Low	Moderate

Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
EdsF: Eda-----	---	In ---	In ---	---	None	Low	Moderate
FraB: Frankirk-----	---	---	---	---	None	High	Low
FryB: Farry-----	---	---	---	---	None	Low	Low
GdfB: Grandfield-----	---	---	---	---	None	Low	Low
GLGB: Grandmore-----	---	---	---	---	None	High	Low
Grandfield-----	---	---	---	---	None	Low	Low
GLSB: Grandfield-----	---	---	---	---	None	Low	Low
GLSD: Grandfield-----	---	---	---	---	None	Low	Low
GmuA: Gracemont, saline-----	---	---	---	---	None	High	High
GmwA: Gracemont, saline-----	---	---	---	---	None	High	High
GrrA: Gracemore, saline-----	---	---	---	---	None	High	High
Gtbb: Gotebo-----	Densic bedrock	20-40	---	Noncemented	None	Low	Low
HdmB: Hardeman-----	---	---	---	---	None	Low	Low
HdmC: Hardeman-----	---	---	---	---	None	Low	Low
Hfka: Hayfork-----	---	---	---	---	None	High	Moderate



Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
HksA: Headrick-----	---	In	In	---	None	High	Low
HolA: Hollister-----	---	---	---	---	None	High	Low
HrAC: Harmon-----	Paralithic bedrock	6-18	---	Very weakly cemented	None	High	Low
Aspermont-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
HSAF: Hardeman-----	---	---	---	---	None	Low	Low
Southside-----	---	---	---	---	None	Low	Low
Arnett-----	---	---	---	---	None	Low	Low
JesC: Jester-----	---	---	---	---	None	Low	Low
KcRG: Knoco, bouldery-----	Densic bedrock	3-20	---	Noncemented	None	High	Low
Rock outcrop-----	Lithic bedrock	0-3	---	Indurated	None	---	---
KoBE: Knoco-----	Densic bedrock	3-20	---	Noncemented	None	High	Low
Badland-----	Densic bedrock	0-3	---	Noncemented	None	High	Low
KRCF: Knoco-----	Densic bedrock	3-20	---	Noncemented	None	High	Low
Rock outcrop-----	Lithic bedrock	0-3	---	Very strongly cemented	None	---	---
Cottonwood-----	Lithic bedrock	3-14	---	Strongly cemented	None	High	High
LacB: La Casa-----	---	---	---	---	None	High	Low

Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
LnuA: Lincoln-----	---	In	In	---	None	Low	Low
LnWA: Lincoln-----	---	---	---	---	None	Low	Low
Westola-----	---	---	---	---	None	Low	Low
LwtA: Lawton-----	---	---	---	---	None	Moderate	Low
LwtB: Lawton-----	---	---	---	---	None	Moderate	Low
LwtC2: Lawton, moderately eroded-----	---	---	---	---	None	Moderate	Low
M-W: Water, Miscellaneous---	---	---	---	---	None	---	---
MagB: Madge-----	---	---	---	---	None	Low	Low
MdgB: Madge-----	---	---	---	---	None	Low	Low
MknB: Mcknight-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
MktB: Mcknight-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
MktC2: Mcknight, moderately eroded-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
NpsB: Nipsum-----	---	---	---	---	None	High	Low
NstC: Nobscot-----	---	---	---	---	None	Low	Moderate

# Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
OakA: Oakley-----	Densic bedrock	In	In				
		61-120	---	Noncemented	None	Moderate	Low
OakB: Oakley-----	Densic bedrock	61-120	---	Noncemented	None	Moderate	Low
OzKA: Ozark-----	Densic bedrock	61-120	---	Noncemented	None	Moderate	Low
PIT: Pits-----	Paralithic bedrock	0-3	---	Very weakly cemented	None	High	Low
QhTC: Quanah-----	---	---	---	---	None	Moderate	Low
Talpa-----	Lithic bedrock	4-20	---	Indurated	None	High	Low
QnRG: Quinlan-----	Densic bedrock	10-20	---	Noncemented	None	Moderate	Low
Rock outcrop-----	Densic bedrock	0-3	---	Noncemented	None	---	---
RakA: Roark-----	---	---	---	---	None	High	Low
RKEG: Rock outcrop, granite--	Lithic bedrock	0-0	---	Indurated	None	---	---
Brico-----	---	---	---	---	None	Moderate	Low
RKO: Rock outcrop, granite--	Lithic bedrock	0-0	---	Indurated	None	---	---
RuuA: Rups-----	---	---	---	---	None	High	Moderate
RuWA: Rups-----	---	---	---	---	None	High	Moderate
SKRG: Spikebox-----	Paralithic bedrock	8-20	---	Very weakly cemented	None	Moderate	Low

# Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
Knoco-----	Densic bedrock	In 3-20	In ---	Noncemented	None	High	Low
Rock outcrop-----	Paralithic bedrock	0-3	---	Very weakly cemented	None	---	---
SpDB: Springer-----	---	---	---	---	None	Low	Low
Devol-----	---	---	---	---	None	Low	Low
SplA: Spur-----	---	---	---	---	None	Moderate	Low
SurA: Spur-----	---	---	---	---	None	Moderate	Low
SuuA: Spur-----	---	---	---	---	None	Moderate	Low
SuWA: Spur-----	---	---	---	---	None	Moderate	Low
TARD: Talpa-----	Lithic bedrock	4-20	---	Indurated	None	High	Low
Aspermont-----	Densic bedrock	40-60	---	Noncemented	None	Moderate	Low
Rock outcrop-----	Lithic bedrock	0-3	---	Indurated	None	---	---
TilA: Tillman-----	Densic bedrock	80-120	---	Noncemented	None	High	Low
TilB: Tillman-----	Densic bedrock	80-120	---	Noncemented	None	High	Low
TipA: Tipton-----	---	---	---	---	None	Moderate	Low
TlVB: Tilvern-----	Densic bedrock	40-60	---	Noncemented	None	High	Low
TpFA: Tipton-----	---	---	---	---	None	Moderate	Low

Soil Survey of Greer County, Oklahoma

Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
TrwB: Treadway-----	---	In	In	---	None	High	High
VeKE: Vernon-----	Densic bedrock	20-40	---	Noncemented	None	High	Low
Knoco-----	Densic bedrock	3-20	---	Noncemented	None	High	Low
VerC: Vernon-----	Densic bedrock	20-40	---	Noncemented	None	High	Low
VeTE: Vernon-----	Densic bedrock	20-40	---	Noncemented	None	High	Low
Talpa, stony-----	Lithic bedrock	4-20	---	Indurated	None	High	Low
W: Water-----	---	---	---	---	---	---	---
WlWB: Willow-----	Densic bedrock	40-60	---	Noncemented	None	Low	Low
WooB: Woodward-----	Densic bedrock	20-40	---	Noncemented	None	Low	Low
WooC: Woodward-----	Densic bedrock	20-40	---	Noncemented	None	Low	Low
WooE: Woodward-----	Densic bedrock	20-40	---	Noncemented	None	Low	Low
Quinlan-----	Densic bedrock	10-20	---	Noncemented	None	Moderate	Low
WslA: Westola-----	---	---	---	---	None	Low	Low
WstA: Westola-----	---	---	---	---	None	Low	Low
WtIA: Westill-----	Densic bedrock	60-80	---	Noncemented	None	High	Low
WtIB: Westill-----	Densic bedrock	60-80	---	Noncemented	None	High	Low



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## Glossary

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**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alkali (sodic) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

**Alluvium.** Material, such as gravel, sand, silt, or clay, deposited on land by streams.

**Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month. Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Area reclaim** (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction in which a slope faces.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

**Backslope.** The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Backslopes in profile are commonly steep, are linear, and may or may not include cliff segments.

**Badland.** Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Butte.** An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Caliche.** A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.
- Canyon.** A long, deep, narrow, very steep-sided valley with high, precipitous walls in an area of high local relief.
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Catena.** A sequence of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Cemented.** Material in an air-dry test specimen that does not slake after being immersed in water for 1 hour. Cemented soil material has a brittle, hard consistence caused by some cementing agent other than clay. Calcium carbonate, silica, or oxides or salts of iron and aluminum are common cementing materials.
- Channeled.** Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.
- Channery soil material.** Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clayey soil.** Silty clay, sandy clay, or clay.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Closed depression.** A low area completely surrounded by higher ground and having no natural outlet.
- Coarse fragments.** Mineral or rock particles larger than 2 millimeters in diameter.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
- Cobbly soil material.** Material that is 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Compressible** (in tables). Excessive decrease in volume of soft soil under load.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Conglomerate.** A coarse-grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Consolidated sandstone.** Sandstone that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry, are not easily crushed, and cannot be textured by the usual field method.
- Consolidated shale.** Shale that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry and are not easily crushed.
- Consolidated siltstone.** Siltstone that disperses within a few hours when fragments are placed in water. The fragments are extremely hard or very hard when dry and are not easily crushed.
- Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.
- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Coppice dune.** A small dune of fine-grained soil material stabilized around shrubs or small trees.
- Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cuesta.** A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.
- Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.
- Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.
- Deep soil.** A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.
- Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep soils, 20 to 40 inches; shallow soils, 10 to 20 inches; and very shallow soils, less than 10 inches.
- Depth to rock** (in tables). Bedrock is too near the surface for the specified use.

- Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.
- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the “Soil Survey Manual.”
- Drainage, surface.** Runoff, or surface flow of water, from an area.
- Drainageway.** An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.
- Draw.** A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.
- Dune.** A mound, ridge, or hill of loose, windblown granular material (generally sand), either bare or covered with vegetation.
- Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.
- Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.
- Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.
- Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.
- Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.
- Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep. Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion. Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.
- Excess fines** (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.
- Excess lime** (in tables). Excess carbonates in the soil that restrict the growth of some plants.
- Excess salts** (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.
- Excess sodium** (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

- Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.
- Fast intake** (in tables). The rapid movement of water into the soil.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called normal field capacity, normal moisture capacity, or capillary capacity .
- Fine textured soil.** Sandy clay, silty clay, or clay.
- First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.
- Flaggy soil material.** Material that is, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.
- Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.
- Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.
- Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.
- Footslope.** The inclined surface at the base of a hill.
- Forb.** Any herbaceous plant not a grass or a sedge.
- Fragile** (in tables). A soil that is easily damaged by use or disturbance.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that is 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter. Very gravelly soil material has 35 to 60 percent of these rock fragments, and extremely gravelly soil material has more than 60 percent.
- Green manure crop (agronomy).** A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is

one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Gypsum.** A mineral consisting of hydrous calcium sulfate.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Heavy metal.** Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form oxides and hydroxides that are basic. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum

rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state.

Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2.....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.



*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements.

Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loamy soil.** Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Low strength.** The soil is not strong enough to support loads.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Mesa.** A broad, nearly flat-topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Microhigh.** An area that is 2 to 12 inches higher than the adjacent microlow.

**Microlow.** An area that is 2 to 12 inches lower than the adjacent microhigh.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately deep soil.** A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—few, common, and many; size—fine, medium, and coarse; and contrast—faint, distinct, and prominent. The size measurements are of the diameter along the greatest dimension. Fine indicates less than 5 millimeters (about 0.2 inch); medium, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and coarse, more than 15 millimeters (about 0.6 inch). Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.
- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.
- Neutral soil.** A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)
- Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.
- Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.
- Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:
- |                     |                       |
|---------------------|-----------------------|
| Very low.....       | less than 0.5 percent |
| Low .....           | 0.5 to 1.0 percent    |
| Moderately low..... | 1.0 to 2.0 percent    |
| Moderate .....      | 2.0 to 4.0 percent    |
| High .....          | 4.0 to 8.0 percent    |
| Very high .....     | more than 8.0 percent |
- Oxbow.** The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.
- Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, hardpan, fragipan, claypan, plowpan, and traffic pan.
- Parent material.** The unconsolidated organic and mineral material in which soil forms.
- Pebble.** See Gravel.
- Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pediment.** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher-lying areas of the erosion surface.

**Pedon.** The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The downward movement of water through the soil.

**Percolates slowly** (in tables). The slow movement of water through the soil adversely affects the specified use.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow .....	0.00 to 0.01 inch
Very slow .....	0.01 to 0.06 inch
Slow .....	0.06 to 0.2 inch
Moderately slow .....	0.2 to 0.6 inch
Moderate .....	0.6 inch to 2.0 inches
Moderately rapid .....	2.0 to 6.0 inches
Rapid .....	6.0 to 20 inches
Very rapid .....	more than 20 inches

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic. Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

**Playa.** The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas. Temporary flooding occurs primarily in response to precipitation and runoff.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poor filter** (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

**Poorly graded.** Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Poor outlets** (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Range condition.** The present composition of the plant community on a range site in relation to the potential natural plant community for that site. Range condition is expressed as excellent, good, fair, or poor on the basis of how much the present plant community has departed from the potential.

**Rangeland.** Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannahs, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

**Range site.** An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid.....	3.5 to 4.4
Very strongly acid.....	4.5 to 5.0
Strongly acid.....	5.1 to 5.5
Moderately acid.....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral.....	6.6 to 7.3
Slightly alkaline.....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline.....	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

**Red beds.** Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features

indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

**Relict stream terrace.** One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Ridge.** A long, narrow elevation of the land surface. It generally is sharp crested and forms an extended upland between valleys.

**Rill.** A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

**Riser.** The relatively short, steeply sloping area below a terrace tread that grades to a lower terrace tread or base level.

**Riverwash.** Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Rock outcrop.** Exposures of bare bedrock other than lava flows and rock-lined pits.

**Rooting depth** (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Rubble land.** Areas that have more than 90 percent of the surface covered by stones or boulders. Voids contain no soil material and virtually no vegetation other than lichens. The areas commonly are at the base of mountain slopes, but some are on mountain slopes as deposits of cobbles, stones, and boulders left by Pleistocene glaciation or by periglacial phenomena.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Saline soil.** A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

**Salinity.** The electrical conductivity of a saline soil. It is expressed, in millimhos per centimeter, as follows:

Nonsaline .....	0 to 2
Very slightly saline .....	2 to 4
Slightly saline .....	4 to 8
Moderately saline .....	8 to 16
Strongly saline.....	more than 16

**Sand.** As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Sandy soil.** Sand or loamy sand.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

**Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.

**Sediment.** Solid, clastic material, both mineral and organic, that is in suspension, is being transported or has been moved from its site of origin by water, wind, ice, or mass wasting, and has come to rest on the earth's surface either above or below sea level.

**Sedimentary plain.** An extensive nearly level to gently rolling or moderately sloping area that is underlain by sedimentary bedrock and that has a slope of 0 to 8 percent.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Sedimentary uplands.** Land areas of bedrock formed from water- or wind-deposited sediments. They are higher on the landscape than the flood plain.

**Seepage** (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

**Semiconsolidated sedimentary beds.** Soft geologic sediments that disperse when fragments are placed in water. The fragments are hard or very hard when dry. Determining the texture by the usual field method is difficult.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Shallow soil.** A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder slope.** The uppermost inclined surface at the top of a hillside. It is the transition zone from the backslope to the summit of a hill or mountain. The surface is dominantly convex in profile and erosional in origin.

**Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

**Silica.** A combination of silicon and oxygen. The mineral form is called quartz.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Sinkhole.** A depression in the landscape where limestone has been dissolved.

**Slickensides.** Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

**Slick spot.** A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

**Slippage** (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey the following slope classes are recognized:

Nearly level.....	0 to 1 percent
Very gently sloping.....	1 to 3 percent
Gently sloping .....	3 to 5 percent
Moderately sloping.....	5 to 8 percent
Strongly sloping.....	8 to 12 percent
Moderately steep .....	12 to 20 percent
Steep .....	20 to 45 percent
Very steep .....	45 percent and higher

Classes for complex slopes are as follows:

Nearly level.....	0 to 3 percent
Gently undulating .....	1 to 5 percent
Undulating .....	1 to 8 percent
Gently rolling .....	5 to 12 percent
Rolling.....	5 to 15 percent
Hilly .....	8 to 30 percent
Steep .....	20 to 45 percent
Very steep .....	45 percent and higher

**Slope** (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

**Slow intake** (in tables). The slow movement of water into the soil.

**Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

**Small stones** (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

**Sodic (alkali) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

**Sodicity.** The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of  $\text{Na}^+$  to  $\text{Ca}^{++} + \text{Mg}^{++}$ . The degrees of sodicity and their respective ratios are:

Slight.....	less than 13:1
Moderate .....	13 to 30:1
Strong.....	more than 30:1

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate

and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand.....	0.5 to 0.25
Fine sand.....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Species.** A single, distinct kind of plant or animal having certain distinguishing characteristics.

**Stone line.** A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Stratified.** Arranged in strata, or layers. The term refers to geologic material. Layers in soils that result from the processes of soil formation are called horizons; those inherited from the parent material are called strata.

**Strath terrace.** A surface cut formed by the erosion of hard or semi consolidated bedrock and thinly mantled with stream deposits.

**Stream channel.** The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

**Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to soil blowing and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are: platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), and granular. Structureless soils are either single grain (each grain by itself, as in dune sand) or massive (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.



- Subsurface layer.** Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.
- Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.
- Summit.** A general term for the top, or highest level, of an upland feature, such as a hill or mountain. It commonly refers to a higher area that has a gentle slope and is flanked by steeper slopes.
- Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."
- Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.
- Tailwater.** The water directly downstream of a structure.
- Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
- Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.
- Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."
- Thin layer (in tables).** Otherwise suitable soil material too thin for the specified use.
- Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- Toeslope.** The outermost inclined surface at the base of a hill; part of a footslope.
- Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.
- Toxicity (in tables).** Excessive amount of toxic substances, such as sodium or sulfur that severely hinder establishment of vegetation or severely restrict plant growth.
- Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
- Trafficability.** The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions
- Tread.** The relatively flat terrace surface that was cut or built by stream or wave action. Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.
- Upland (geology).** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
- Valley.** An elongated depressional area primarily developed by stream action.
- Valley fill.** Alluvium deposited by heavily loaded streams.
- Variagation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- Very deep soil.** A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

**Very shallow soil.** A soil that is less than 10 inches deep over bedrock or to other material that restricts the penetration of plant roots.

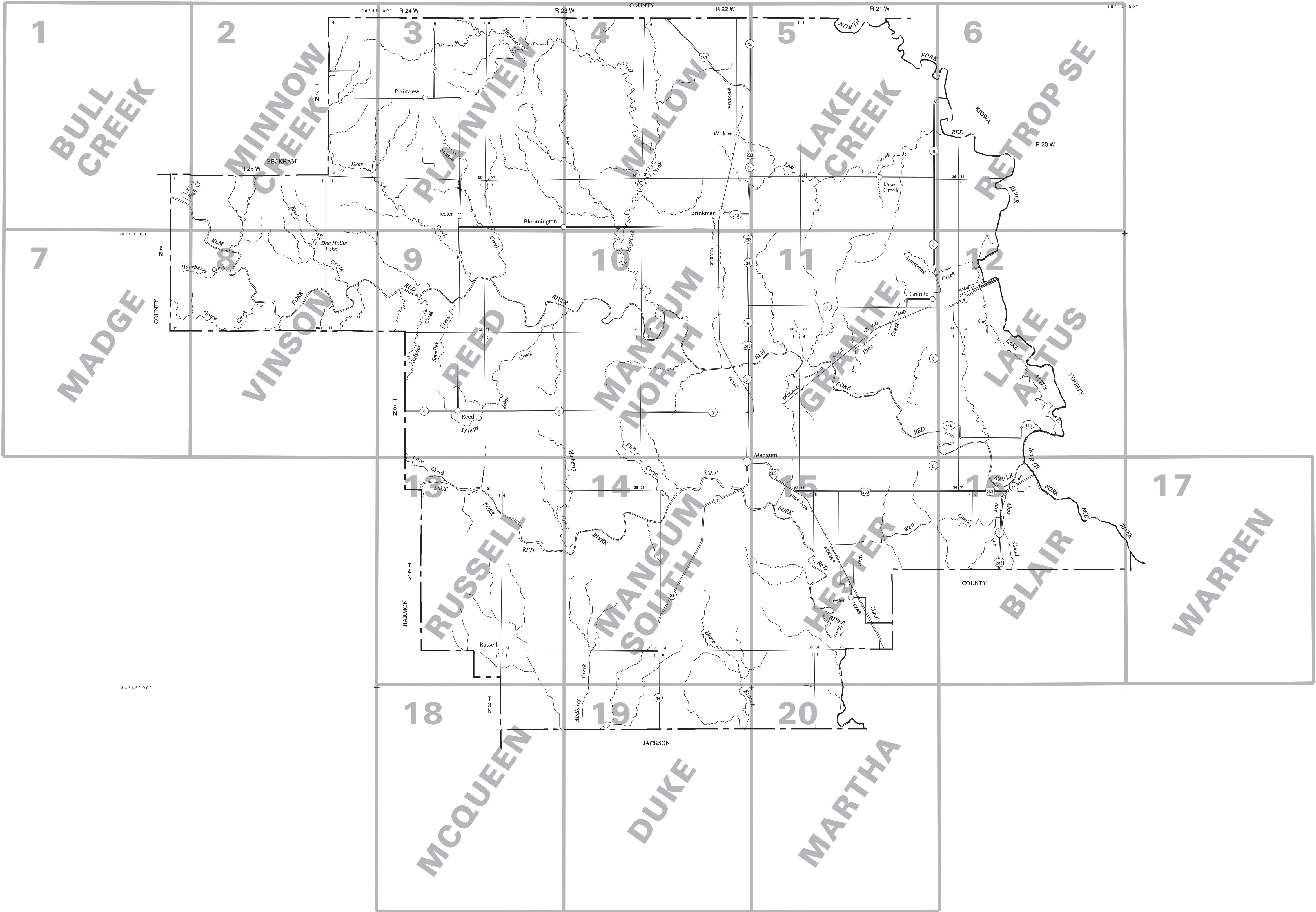
**Well graded.** Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

# NRCS Accessibility Statement

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SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



INDEX TO MAP SHEETS  
GREER COUNTY, OKLAHOMA

1 0 1 2 3  
MILES

1 0 1 2 3 4 5 6  
KILOMETERS

SCALE = 1:100000

SOIL LEGEND

Soil map symbols are in alphabetical order. The first letter is always a capital letter and is the initial letter of the soil series name. The second and third letters are lowercase, except with undifferentiated groups, complexes, and miscellaneous areas, and typically are also from the soil series name. The fourth letter is capital and represents the soil slope group. The fifth part of the symbol, where present, is a number and represents the erosion class for the map unit.

SYMBOL	NAME	SYMBOL	NAME
AceB	Acme silt loam, 0 to 2 percent slopes	LnWA	Lincoln and Westola soils, 0 to 1 percent slopes, frequently flooded
ArHF	Arnett-Hardeman complex, 3 to 15 percent slopes	LwtA	Lawton loam, 0 to 1 percent slopes
ArnB	Arnett sandy loam, 1 to 3 percent slopes	LwtB	Lawton loam, 1 to 3 percent slopes
ArnC	Arnett sandy loam, 3 to 5 percent slopes	LwtC2	Lawton loam, 3 to 5 percent slopes, eroded
AsmB	Aspermont silt loam, 1 to 3 percent slopes	M-W	Miscellaneous water
AsmC	Aspermont silt loam, 3 to 5 percent slopes	MagB	Madge loam, 1 to 3 percent slopes
BekA	Beckman silty clay, 0 to 1 percent slopes, occasionally flooded	MdgB	Madge fine sandy loam, 1 to 3 percent slopes
BfdB	Burford loam, 1 to 3 percent slopes	MknB	McKnight fine sandy loam, 1 to 3 percent slopes
BfdC	Burford loam, 3 to 5 percent slopes	MktB	McKnight loamy fine sand, 0 to 3 percent slopes
BfSC2	Burford-Spikebox complex, 3 to 5 percent slopes, eroded	MktC2	McKnight loamy fine sand, 3 to 5 percent slopes, eroded
BfSE	Burford-Spikebox complex, 3 to 12 percent slopes	NpsB	Nipsum silty clay loam, 0 to 2 percent slopes
BriE	Brico cobbly loam, 3 to 12 percent slopes	NstC	Nobscot sand, 2 to 5 percent slopes
BukA	Bukreek loam, 0 to 1 percent slopes	OakA	Oakley loam, 0 to 1 percent slopes
CarB	Carey loam, 1 to 3 percent slopes	OakB	Oakley loam, 1 to 3 percent slopes
CawA	Carwile fine sandy loam, 0 to 1 percent slopes, frequently ponded	Ozka	Ozark fine sandy loam, 0 to 1 percent slopes
CVRD	Cottonwood-Vinson-Rock outcrop complex, 1 to 8 percent slopes	PtS	Pits
DAM	Large dam	QhTC	Quanah-Talpa complex, 1 to 5 percent slopes
DeSD	Devol and Springer loamy sands, 3 to 8 percent slopes	QnRG	Quinlan-Rock outcrop complex, 12 to 45 percent slopes
DkuA	Duke silty clay, 0 to 1 percent slopes, occasionally flooded	RakA	Roark loam, 0 to 1 percent slopes
DodA	Dodson loam, 0 to 1 percent slopes	RKBG	Rock outcrop-Brico complex, 8 to 50 percent slopes
DodB	Dodson loam, 1 to 3 percent slopes	RKO	Rock outcrop, granite
EatA	Eastall silty clay, 0 to 1 percent slopes, frequently ponded	RuuA	Rups silty clay loam, 0 to 1 percent slopes, occasionally flooded
EdsB	Eda sand, 0 to 3 percent slopes	RuwA	Rups silty clay loam, 0 to 1 percent slopes, frequently flooded
EdsD	Eda sand, 3 to 8 percent slopes	SKRG	Spikebox-Knoco-Rock outcrop complex, 12 to 40 percent slopes
EdsF	Eda sand, 8 to 15 percent slopes	SpDB	Springer and Devol loamy sands, 0 to 3 percent slopes
FraB	Frankirk loam, 1 to 3 percent slopes	SplA	Spur loam, 0 to 1 percent slopes, occasionally flooded
FryB	Farry loam, 1 to 3 percent slopes	SurA	Spur clay loam, 0 to 1 percent slopes, rarely flooded
GdfB	Grandfield fine sandy loam, 1 to 3 percent slopes	SuuA	Spur clay loam, 0 to 1 percent slopes, occasionally flooded
GIGB	Grandmore and Grandfield loamy sands, 0 to 3 percent slopes	SuwA	Spur clay loam, 0 to 1 percent slopes, frequently flooded
GlsB	Grandfield loamy sand, 0 to 3 percent slopes	TARD	Talpa-Aspermont-Rock outcrop complex, 1 to 8 percent slopes
GlsD	Grandfield loamy sand, 3 to 8 percent slopes	TiIA	Tillman clay loam, 0 to 1 percent slopes
GmuA	Gracemont fine sandy loam, saline, 0 to 1 percent slopes, occasionally flooded	TiIB	Tillman clay loam, 1 to 3 percent slopes
GmwA	Gracemont fine sandy loam, saline, 0 to 1 percent slopes, frequently flooded	TipA	Tipton loam, 0 to 1 percent slopes
GrrA	Gracemore clay loam, saline, 0 to 1 percent slopes, occasionally flooded	TlvB	Tilvern clay loam, 1 to 3 percent slopes
GtbB	Gotebo loam, 1 to 3 percent slopes	TpfA	Tipton fine sandy loam, 0 to 1 percent slopes
HdmB	Hardeman fine sandy loam, 1 to 3 percent slopes	TrwB	Treadway silty clay loam, 0 to 2 percent slopes
HdmC	Hardeman fine sandy loam, 3 to 5 percent slopes	VeKE	Vernon-Knoco complex, 1 to 12 percent slopes
HfkA	Hayfork silty clay loam, 0 to 1 percent slopes, rarely flooded	VerC	Vernon clay loam, 3 to 5 percent slopes
HksA	Headrick loamy sand, 0 to 1 percent slopes	VeTE	Vernon-Talpa complex, 1 to 12 percent slopes, stony
HolA	Hollister silty clay loam, 0 to 1 percent slopes	W	Water
HrAC	Harmon-Aspermont complex, 1 to 5 percent slopes	WlwB	Willow loam, 1 to 3 percent slopes
HSAF	Hardeman-Southside-Arnett complex, 3 to 20 percent slopes	WooB	Woodward loam, 1 to 3 percent slopes
JesC	Jester fine sand, 1 to 5 percent slopes	WooC	Woodward loam, 3 to 5 percent slopes
KcRG	Knoco soils and Rock outcrop, 12 to 40 percent slopes	WoQE	Woodward-Quinlan complex, 5 to 12 percent slopes
KoBE	Knoco-Badland complex, 1 to 12 percent slopes	WsIA	Westola fine sandy loam, 0 to 1 percent slopes, occasionally flooded
KRCF	Knoco, Rock outcrop, and Cottonwood soils, 2 to 20 percent slopes	WstA	Westola fine sandy loam, 0 to 1 percent slopes, rarely flooded
LacB	La Casa silty clay loam, 1 to 3 percent slopes	WtlA	Westill clay loam, 0 to 1 percent slopes
LnuA	Lincoln loamy sand, 0 to 1 percent slopes, occasionally flooded	WtlB	Westill clay loam, 1 to 3 percent slopes

CONVENTIONAL AND SPECIAL  
SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province	---
County or parish	_____
Minor civil division	--- --
Reservation (national forest or park, state forest or park)	_____
Land grant	-----
Limit of soil survey (label) and/or denied access area	_____
Field sheet matchline and neatline	_____
Previously published survey	_____

OTHER BOUNDARY

Airport, airfield	
Cemetery	
City/county park	

STATE COORDINATE TICK  
1 890 000 FEET

LAND DIVISION CORNER  
(section and land grants)

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION

Divided roads	=====
Other roads	=====
Trail	-----

ROAD EMBLEMS AND DESIGNATIONS

Interstate	
Federal	
State	
County, farm or ranch	

RAILROAD

POWER TRANSMISSION LINE

PIPELINE

FENCE

LEVEES

Without road	=====
With road	=====
With railroad	=====
Single side slope	=====

DAMS

Medium or small	
Prominent hill or peak	
Soil sample site	

MISCELLANEOUS CULTURAL FEATURES

Farmstead, house	
Church	
School	
Other religion	
Located object	
Tank	
Lookout tower	
Oil and/or natural gas wells	
Windmill	
Lighthouse	

HYDROGRAPHIC FEATURES

STREAMS

Perennial stream, double line	
Perennial stream, single line	
Intermittent stream	
Drainage end	

DRAINAGE AND IRRIGATION

Double-line canal	
Perennial drainage and/or irrigation ditch	
Intermittent drainage and/or irrigation ditch	

SMALL LAKES, PONDS, AND RESERVOIRS

Perennial water	
Miscellaneous water	
Flood pool line	

MISCELLANEOUS WATER FEATURES

Spring	
Well, artesian	
Well, irrigation	

SPECIAL SYMBOLS FOR SOIL  
SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS

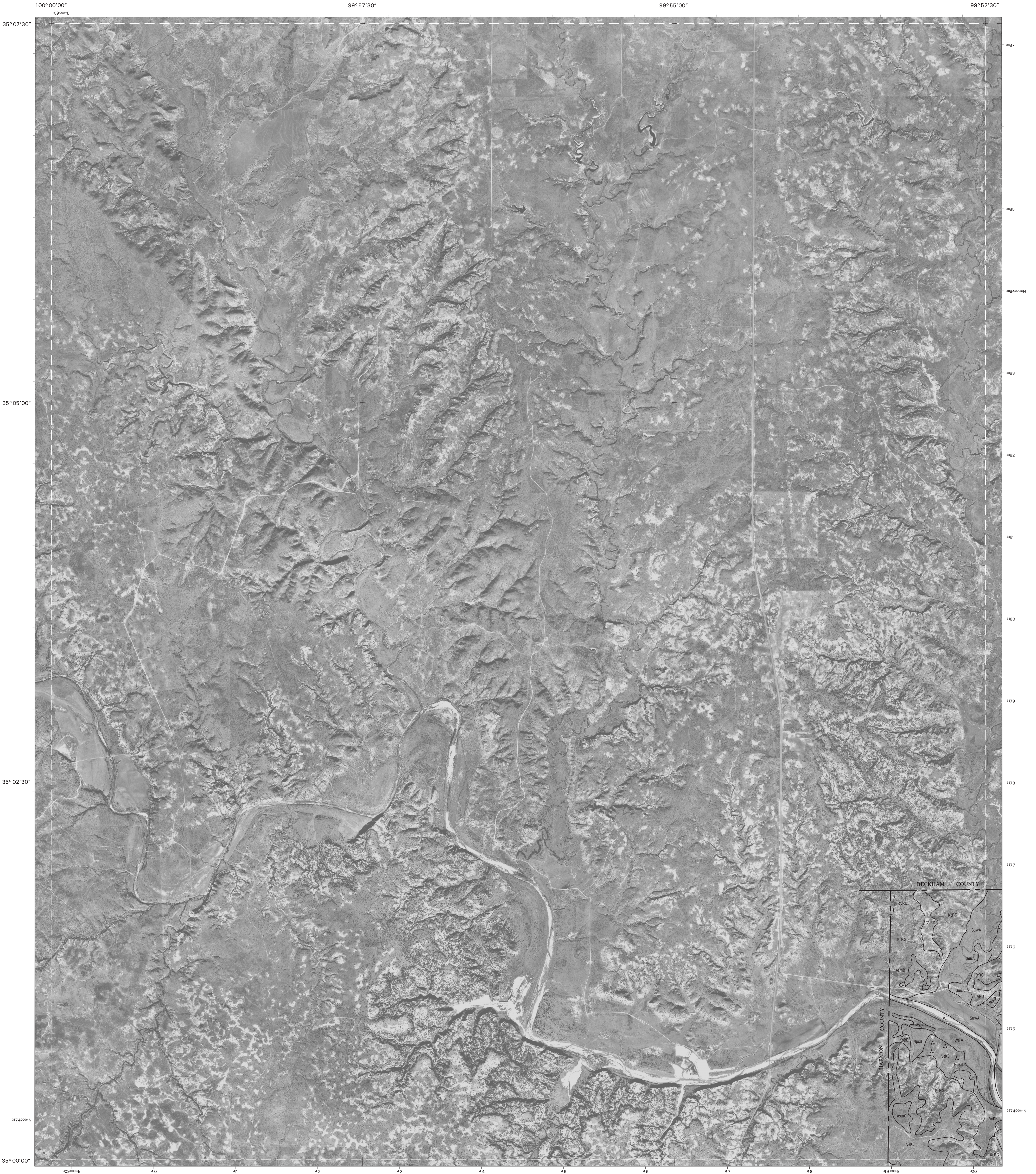
LANDFORM FEATURES

Bedrock escarpment	
Other than bedrock escarpment	
Short steep slope	
Gully	
Depression, closed	
Sinkhole	
Borrow pit	
Gravel pit	
Mine or quarry	
Landfill	

MISCELLANEOUS SURFACE FEATURES

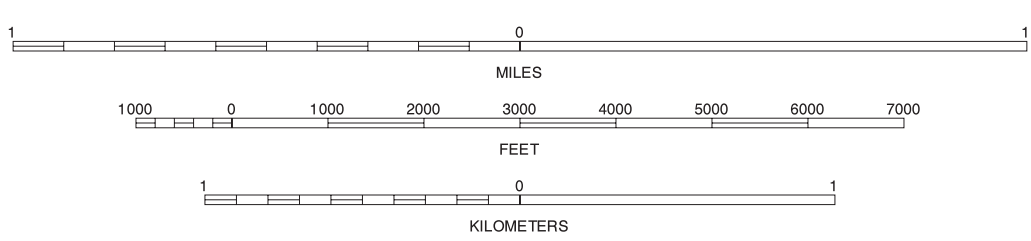
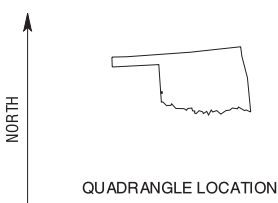
Blowout	
Clay spot	
Gravelly spot	
Lava spot	
Marsh or swamp	
Rock outcrop (includes sandstone and shale)	
Saline spot	
Sandy spot	
Severely eroded spot	
Slide or slip	
Sodic spot	
Spoil area	
Stony spot	
Very stony spot	
Wet spot	
ADHOC FEATURES	
Shallow spot	





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



	2	2 MINNOW CREEK
7	8	7 MADGE 8 VINSON

INDEX TO ADJOINING 7.5 MAPS

BULL CREEK, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 1 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 8,  
Vinson

Joins sheet 2, Minnow Creek





Joins sheet 1, Bull Creek

Joins sheet 3, Plainview

Joins sheet 7, Madge

Joins sheet 9, Reed

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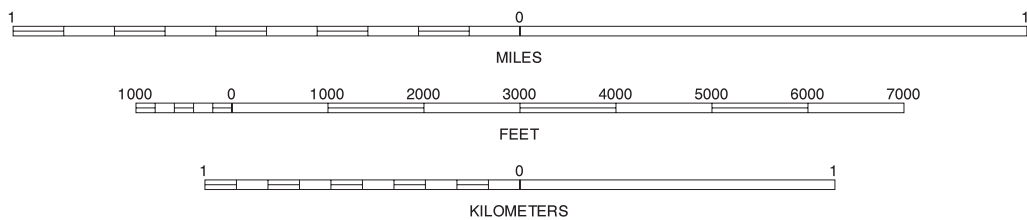
NORTH



QUADRANGLE LOCATION

Joins sheet 8, Vinson

SCALE 1:24000



1		3
7	8	9

INDEX TO ADJOINING 7.5 MAPS

MINNOW CREEK, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 2 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



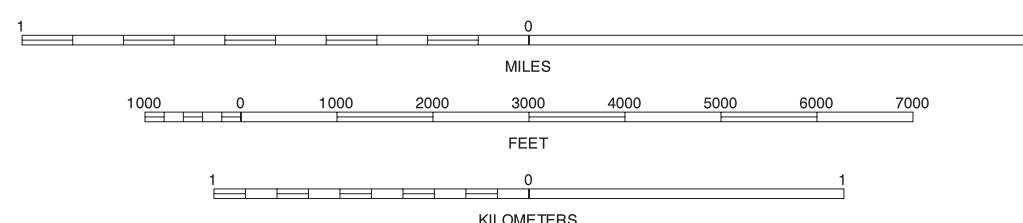


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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

*Joins sheet 9, Reed*

SCALE 1:24000



2		4	
8	9	10	

2 MINNOW CREEK  
4 WILLOW  
8 VINSON  
9 REED  
10 MANGUM NORTH

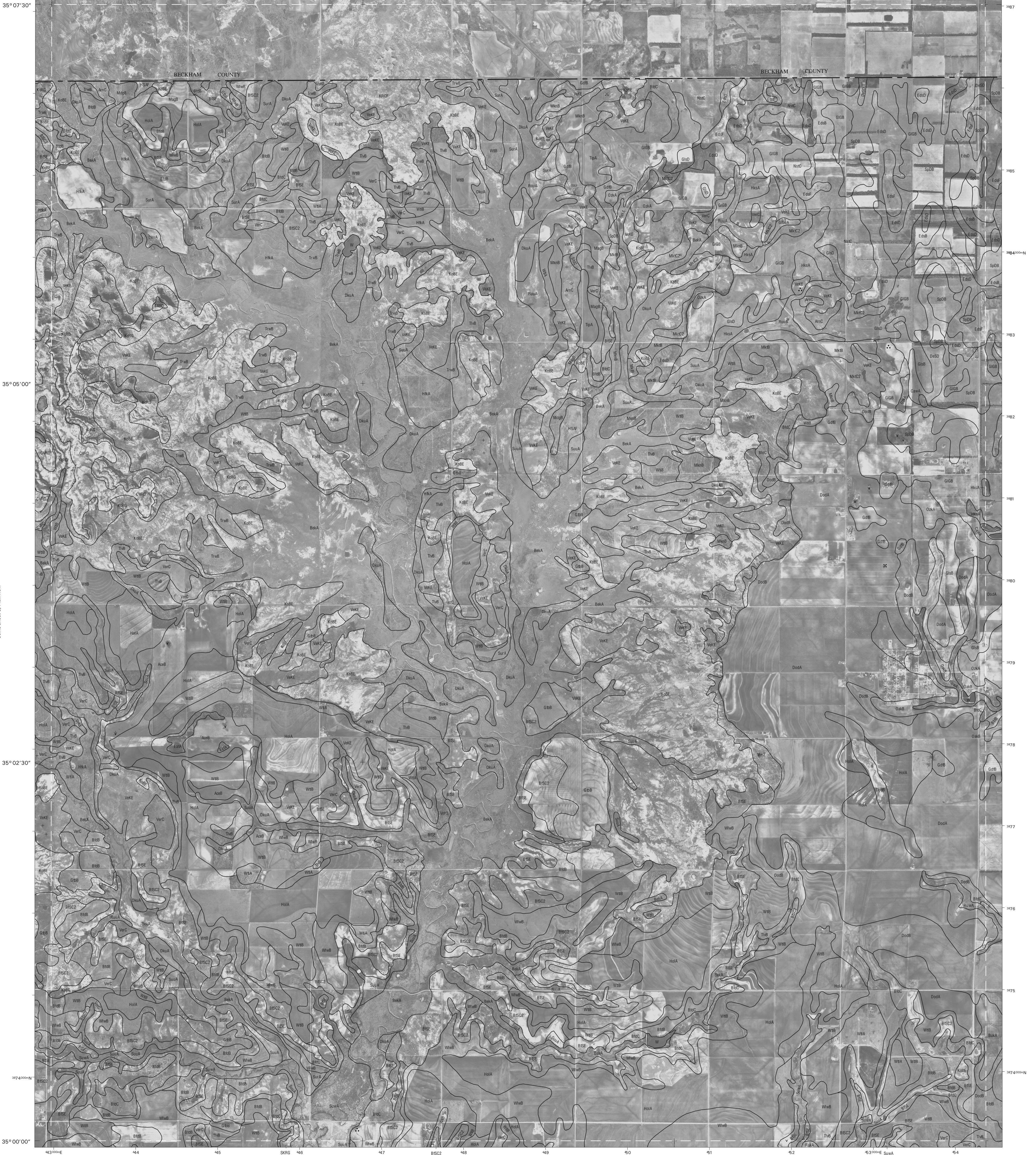
INDEX TO ADJOINING T.6 MAPS

PLAINVIEW, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 3 OF 20

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 10,  
Mangum North





Joins sheet 3, Plainview

Joins sheet 5, Lake Creek

Joins sheet 9,  
Beechey

Joins sheet 11,  
Granite

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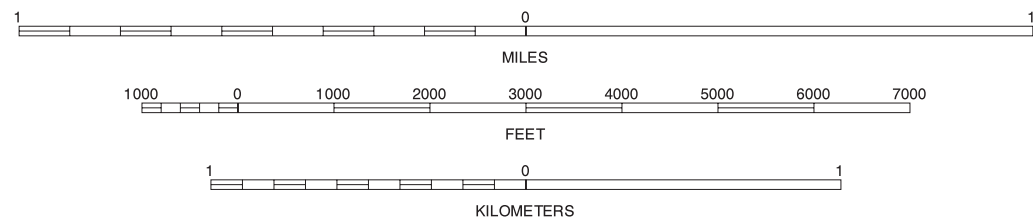
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



3	5	
9	10	11

INDEX TO ADJOINING 7.5 MAPS

3 PLAINVIEW  
5 LAKE CREEK  
9 REED  
10 MANGUM NORTH  
11 GRANITE

WILLOW, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 4 OF 20

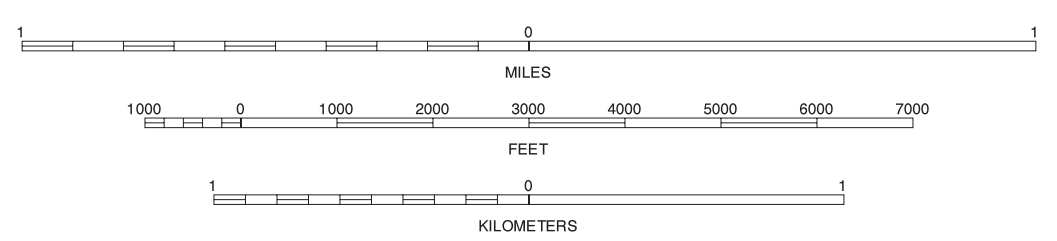
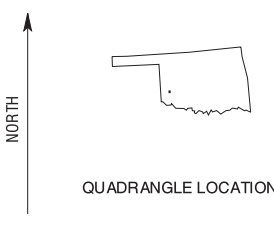
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1000-meter ticks: Universal Transverse Mercator, zone 14.  
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4	6
10	12

LAKE CREEK, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 5 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



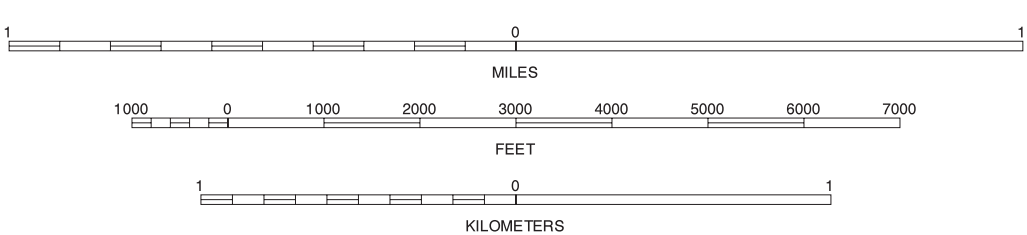
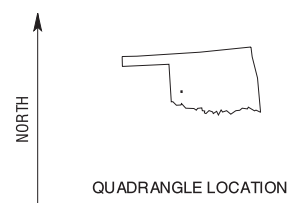


Joins sheet 5, Lake Creek

Joins sheet 11,  
Granite

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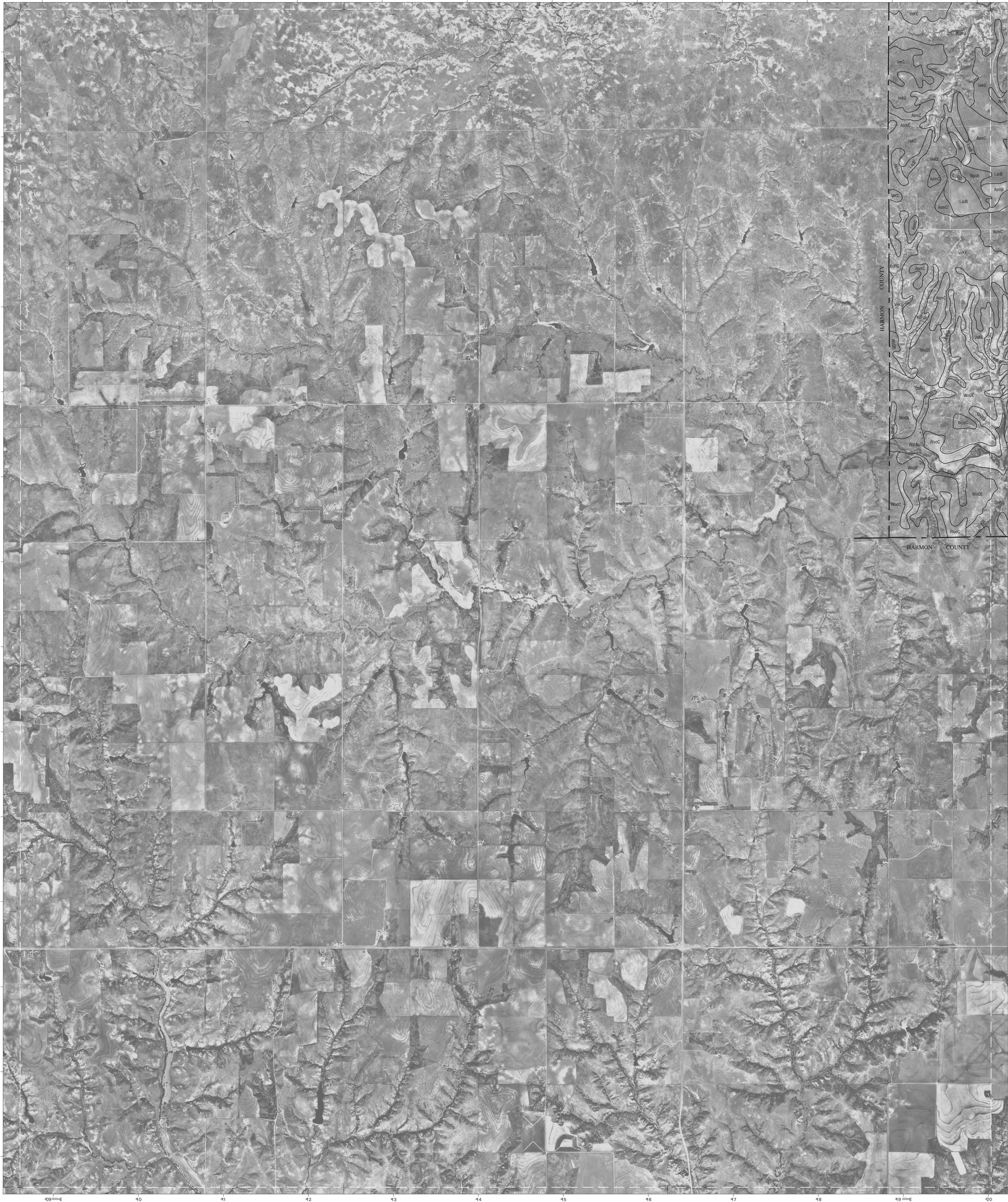


5	11	12
5 LAKE CREEK	11 GRANITE	12 LAKE ALTUS

RETROP SE, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 6 OF 20

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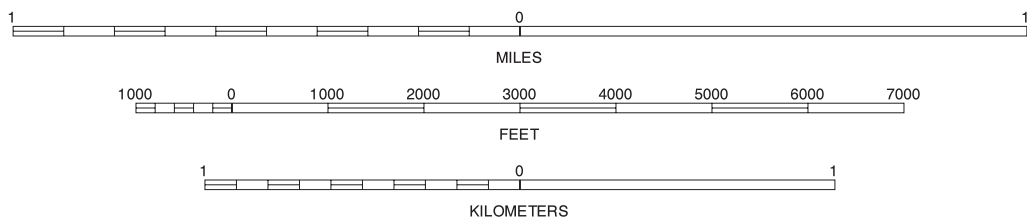
North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 14.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



	1	2
	8	

1 BULL CREEK  
2 MINNOW CREEK  
8 VINSON

INDEX TO ADJOINING 7.5 MAPS

MADGE, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 7 OF 20

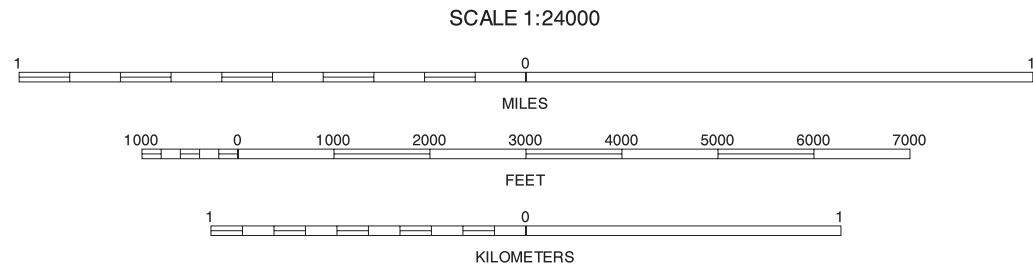
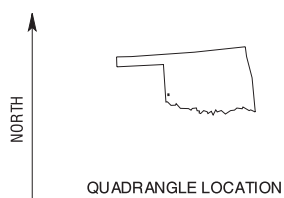
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1000-meter ticks: Universal Transverse Mercator, zone 14.  
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1	2	3
7	8	9
	13	

1 BULL CREEK  
2 MINNOW CREEK  
3 PLAINVIEW  
7 MADGE  
9 REED  
13 RUSSELL

VINSON, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 8 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.





NORTH



SCALE 1:24000

INDEX TO ADJOINING 7.5 MAPS

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 14,  
Mangum South.



Joins sheet 3,  
Pawnee

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

GREER COUNTY, OKLAHOMA  
MANGUM NORTH QUADRANGLE  
SHEET NUMBER 10 OF 20

Joins sheet 5,  
Lake Creek



Joins sheet 9, Reed

Joins sheet 11, Granite

Joins sheet 13,  
Russell

Joins sheet 15,  
Hester

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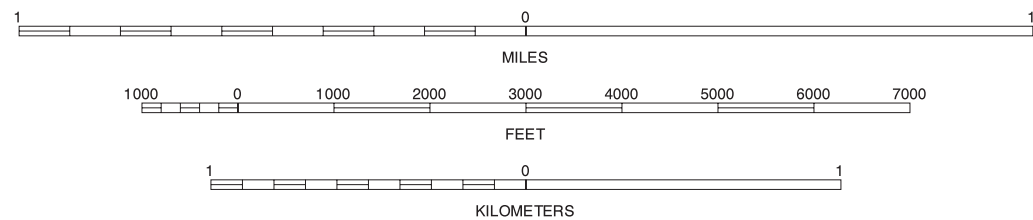
NORTH



QUADRANGLE LOCATION

Joins sheet 14, Mangum South

SCALE 1:24000



3	4	5	3 PLAINVIEW
			4 WILLOW
			5 LAKE CREEK
9		11	9 REED
			11 GRANITE
			13 RUSSELL
13	14	15	14 MANGUM SOUTH
			15 HESTER

INDEX TO ADJOINING 7.5 MAPS

MANGUM NORTH, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 10 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



Joins sheet 12, Lake Altus



Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 1  
Blair



Joins sheet 5,  
Lake Creek

99°20'00"

Joins sheet 6, Retrop SE

99°17'30"

35°00'00"

34°57'30"

34°55'00"

34°52'30"

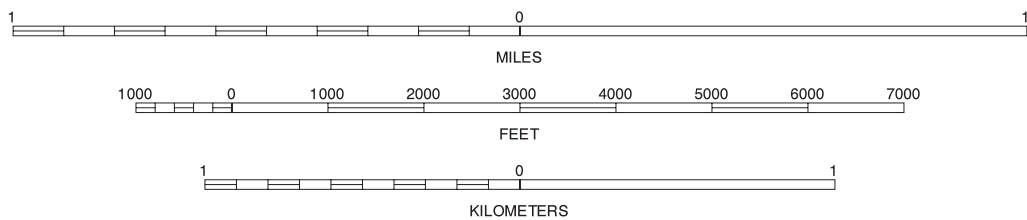
Joins sheet 11, Granite

Joins sheet 15,  
Hester



Joins sheet 16, Blair

SCALE 1:24000



5	6		5 LAKE CREEK 6 RETROP SE
11			11 GRANITE
15	16	17	15 HESTER 16 BLAIR 17 WARREN

INDEX TO ADJOINING 7.5 MAPS

LAKE ALTUS, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 12 OF 20

Soil map delineations extending beyond the dashed white quadrangle neatlne are for reference only and are included on adjacent map sheets.

Joins sheet 17,  
Warren

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



Joins sheet 8,  
Vinton

Joins sheet 10,  
Mangum North

34° 52' 30"

34° 50' 00"

34° 47' 30"

34° 45' 00"

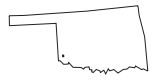


Joins sheet 14, Mangum South

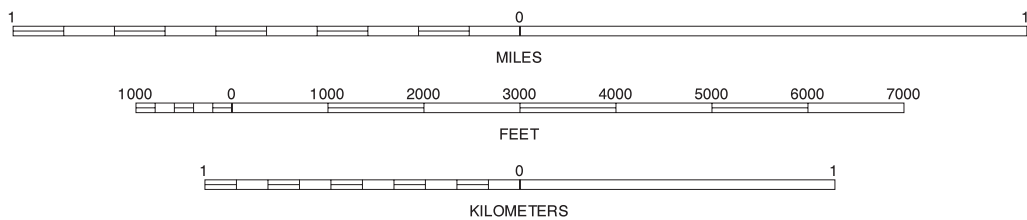
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



8	9	10	8 VINSON
			9 REED
			10 MANGUM NORTH
		14	14 MANGUM SOUTH
	18	19	18 MCQUEEN
			19 DUKE

INDEX TO ADJOINING 7.5 MAPS

RUSSELL, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 13 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 19,  
Duke

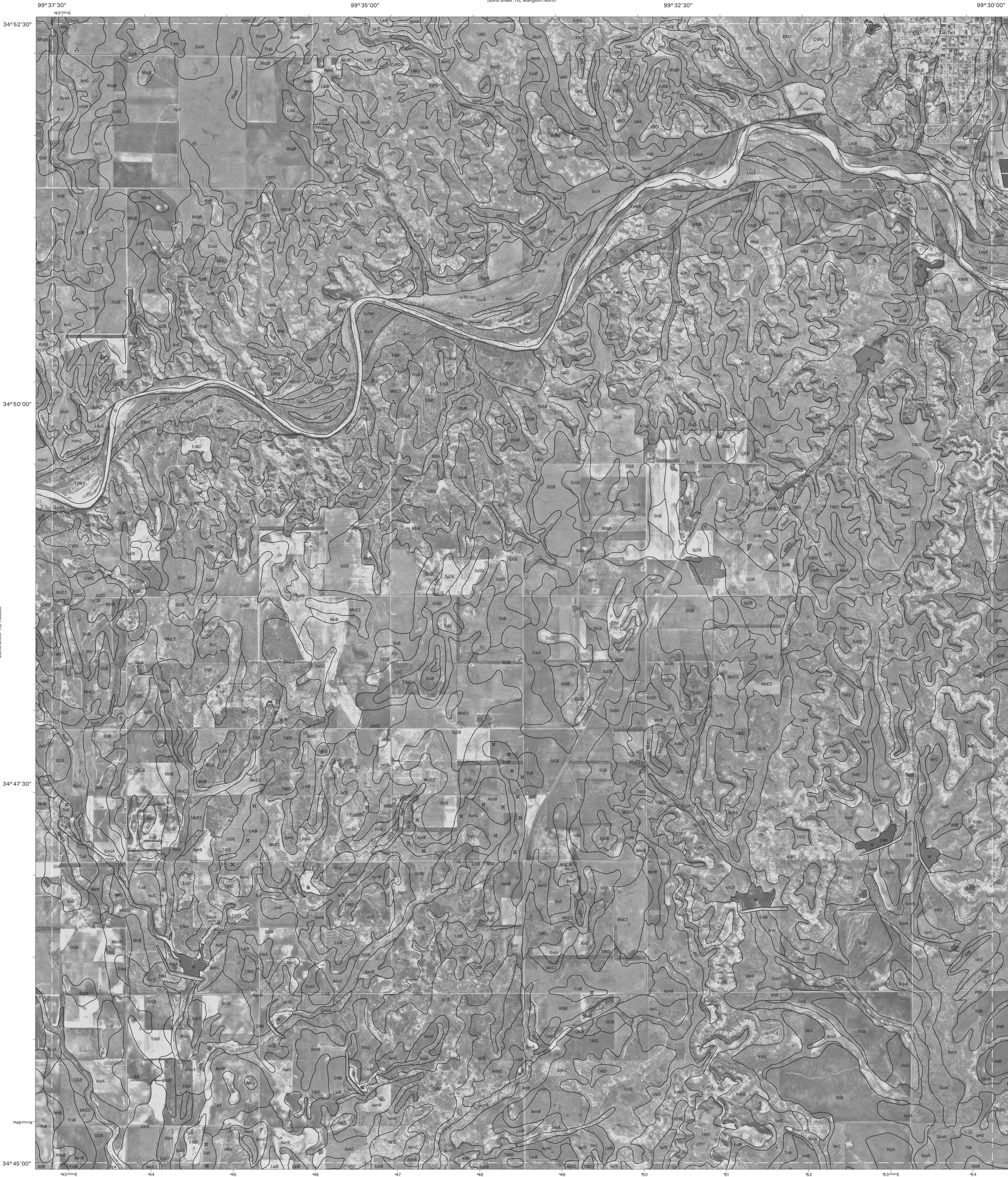


Joins sheet 9,  
Russell

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

GREER COUNTY, OKLAHOMA  
MANGUM SOUTH QUADRANGLE  
SHEET NUMBER 14 OF 20

Joins sheet 11,  
Granite



Joins sheet 13, Russell

Joins sheet 15, Heister

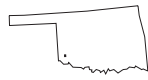
Joins sheet 16,  
McQueen

Joins sheet 20,  
Martha

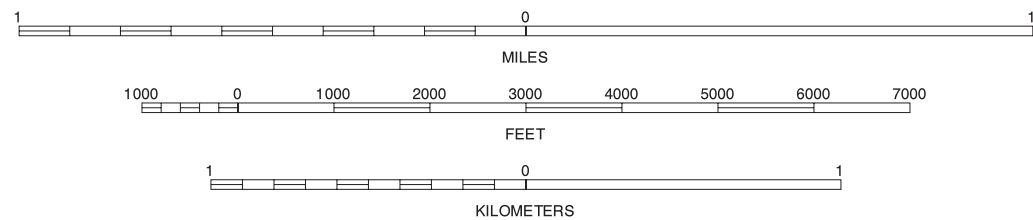
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



SCALE 1:24000

9	10	11
13	14	15
18	19	20

9 REED  
10 MANGUM NORTH  
11 GRANITE  
13 RUSSELL  
15 HEISTER  
18 MCQUEEN  
19 DUKE  
20 MARTHA

INDEX TO ADJOINING 7.5 MAPS

MANGUM SOUTH, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 14 OF 20

Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets.



34° 52' 30"

34° 50' 00"

34° 47' 30"

34° 45' 00"

Joins sheet 14, Mangum South

Joins sheet 19,  
Duke

Joins sheet 11, Granite

99° 25' 00"

Joins sheet 12,  
Lake Altus

Joins sheet 16, Blair



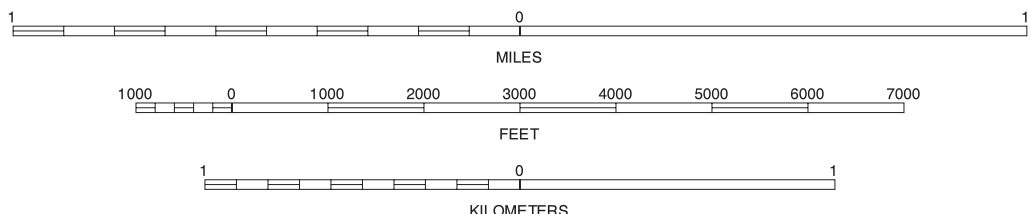
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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



SCALE 1:24000

10	11	12
14	15	16
19	20	

10 MANGUM NORTH  
11 GRANITE  
12 LAKE ALTUS  
14 MANGUM SOUTH  
16 BLAIR  
19 DUKE  
20 MARTHA

INDEX TO ADJOINING 7.5 MAPS

HESTER, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 15 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



Joins sheet 11, Granite

Joins sheet 12, Lake Altus

Joins sheet 17, Warren

Joins sheet 15, Hester

Joins sheet 20, Martha

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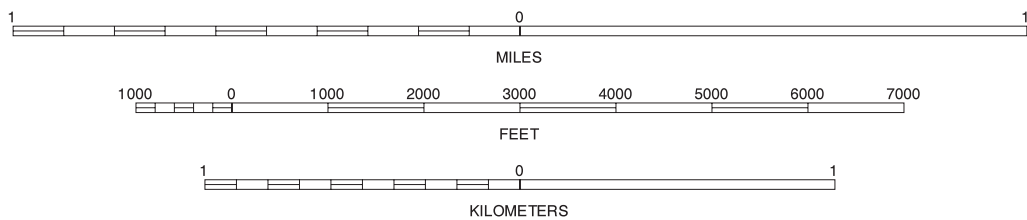
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks. Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



11	12	
15		17
20		

INDEX TO ADJOINING 7.5 MAPS

11 GRANITE  
12 LAKE ALTUS

15 HESTER  
17 WARREN  
20 MARTHA

BLAIR, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 16 OF 20

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



Joins sheet 12,  
Lake Altus

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

GREER COUNTY, OKLAHOMA  
WARREN QUADRANGLE  
SHEET NUMBER 17 OF 20



Joins sheet 16, Blair

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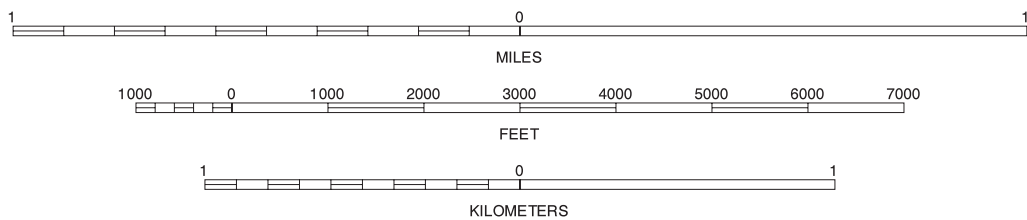
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



12		12 LAKE ALTUS
16		16 BLAIR

INDEX TO ADJOINING 7.5 MAPS

WARREN, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 17 OF 20

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





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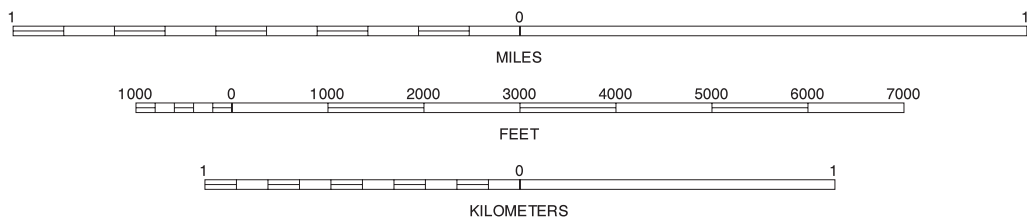
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 14. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SCALE 1:24000



13	14	13 RUSSELL
		14 MANGUM SOUTH
	19	19 DUKE

INDEX TO ADJOINING 7.5 MAPS

MCQUEEN, OKLAHOMA  
7.5 MINUTE SERIES  
SHEET NUMBER 18 OF 20

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



*Joins sheet 14, Mangum South*



Joins sheet 20. Martha

NORTH

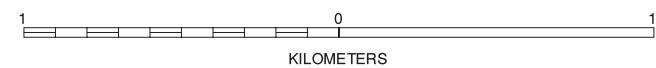
INDEX TO ADJOINING 7.5 MAPS

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





H<sub>2</sub>O



INDEX TO ADJOINING 7.5 MAPS

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